NORTHERN SPOTTED OWL DATA ENTRY MANUAL

APRIL 1991

SPOTTED OWL DATABASE, DBASE III PLUS

RELEASE 2.0

APRIL 1991

The following instructions should allow you to enter data in the spotted owl database. The instructions are necessarily simplistic and detailed. Feel free to ignore all or part if you have dBASE III Plus experience.

This program is written for IBM compatible PCs with a copy of the dBASE III Plus program. Check with someone in your office to see if these are compatible with your system. Most districts should have one somewhere, so ask around. It will not run on most WANGs.

I have designed an inputting program that requires no knowledge of dBASE. It contains all the commands and screen entry forms, and is designed to lead you through the process with menus. The programs are provided on a floppy disc. The following instructions are designed for data entry on a floppy disc. If you wish to work on a hard disc, check with your district computer expert for any differences.

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ACCESSING THE PROGRAM

Begin by accessing DBASE III PLUS and inserting the floppy disc. Check with an 'expert' in your office for help on your particular machines. Once the Assist menu appears at the top of the page, press the escape key. The screen will clear and a "." will appear in the lower left corner.

type SET DEFAULT TO A, press enter key
a second "." will appear

type DO OWL, press enter key

Now just follow the menu instructions

On the MAIN MENU, shown below, press

1 to enter Data

2 for Summaries and Reports. One report is ready which allows you to print indexed copies of your data files

9 to access dBASE III Plus for work outside of the program

0 to get you out of the program and back to the computer control.

SPOTTED OWL DATABASE

MAIN MENU

1: Add/Modify Data	9: Return to dBASE III Plus
2: Run Summaries and Reports	0: Exit dBASE III Plus

Your Choice?

INPUTTING DATA

On the DATA ENTRY/EDITING MENU, shown below, press:

A to enter SITE records,
B to edit Site records
C to enter VISIT/OWL records from 1988,
E to edit VISIT/OWL records

F to print temporary files. These contain data that you entered, but were unable to print immediately after entry.

G to enter SUMMARY records
H to edit SUMMARY records
I to enter TELEMETRY records.
J to edit TELEMETRY records

K to edit Banding File Data. The initial information is automatically entered when you entered initial banding data (Observation Type BB) into the Owl File if you used the entry program.

O to enter nest tree data (program not yet available)
P to edit nest tree data (program not yet available)

M to return to MAIN MENU
R to access dBASE III Plus for work outside of the program
X to get you out of the program and back to the computer control.

SPOTTED OWL DATABASE

DATA ENTRY/EDITING MENU

A: Add Site Records	B: Edit Site Records
C: Add Visit/Owl Records	E: Edit Visit/Owl Records
F: Print Temporary Files	K: Edit Banding Records
G: Enter Annual Summary Records	H: Edit Summary Records
I: Enter Telemetry Records	J: Edit Telemetry Records
O: Enter Nest Tree Records	P: Edit Nest Tree Records
M: Return to Main Menu	R: Return to dBASE III
X: Exit dBASE III Plus	

Your Choice?

RUNNING REPORTS

On the REPORTS MENU, shown below, press:

A to Print Sorted Data Files

M to return to the Main Menu

X to get you out of the program and back to the computer control.

R to access dBASE III Plus for work outside of the program

SPOTTED OWL DATABASE

REPORTS MENU

A: Print Sorted Data Files

M: Return to Main Menu

R: Return to dBASE III

X: Exit dBASE III Plus

Your Choice?

DATA ENTRY - GENERAL

To input data, simply fill in the blanks when the screen entry forms appear. Read the following hints before starting.

I've turned the bell off, so keep an eye on the screen. In dBase III, if the value you input completely fills the spaces, the curser automatically moves to the next blank field. If not, as in most location names, you will have to press the ENTER key to move to the next field.

For some variables, if you attempt to enter the wrong type of data, ie. numbers where there should only be letters, the screen will not accept it. If you accidentally enter a value in one of these variables which should have been left blank, center the cursor on the error and hit the DELETE button. Check your machine to find this button, it's often on the keypad. If so, make sure the NUMBER LOCK is turned off.

If you have no data to enter in a particular field, just press the ENTER key to move to the next field.

If you find a mistake before you reach the end of the page, use the (up arrow) key to move to the appropriate field and simply type over the e rror.

To exit the record at any time, simply press the PgDn until you reach the end of the record.

If you realize you made a mistake in the last entry, make a note. At this time, you cannot access a finished record from the entry program. Follow the editing instructions given later to fix the error.

In answering the prompt questions, enter only the appropriate letter (Y/N). **DO NOT** press the ENTER key.

For all Yes and No questions, if you enter any other letter, the computer will ask you to try again. This is also true for characters not found in the Main, Data, and Report menus.

SITE FILE DATA ENTRY

To enter data in the SITE file, access the DATA ENTRY MENU. Press A. The following message will appear

Please enter the following information

Todays date (Mo/Dy/Yr) __/__/__

District ____

Salem = 080	**Medford = 110**
Eugene = 090	**Coos Bay = 120**
Roseburg = 100	**Lakeview = 834**

When you enter the information, a blank entry screen will appear with the Entry Date and district already filled in. Begin entering the data. Refer to the Site Instruction and Code sheet for the appropriate values.

When you reach the end of the record, the screen will clear and you will be asked

"Do you have additional site records to enter? Y/N"

If you enter Y, a new entry screen will appear. To help you keep track of the entries, the Site Name, and Year of the last record you entered will appear on the top of the new entry screen.

When you finish the entry session, respond with an N. The computer will then store the information you just entered in the permanent files. As the files grow, this will take some time. While the computer is working, the screen will read

"Be patient, I am storing the data."

The program is designed to print a hard copy of the records entered during that session automatically, so you can check for errors. When you finish entering, you will be told the following.

"This program is designed to automatically print a hard copy of the data you just entered so you can check for errors. If you cannot print at this time, the data will be stored in a file called PRNTSITE.DBF for you to print later."

If you cannot print at this time, enter N and the records will be stored for you to print later. Again, this will take time. The screen will read

"Hang on, I am storing a copy of the data for you to print later."

These temporary storage files may be printed through the DATA ENTRY MENU, Letter F. Instructions follow later.

If you can print, the computer will ask you for the paper size. It is best to use wide paper if at all possible, it saves a lot of space.

"PLEASE TURN PRINTER ON AND ALIGN PAPER."

"Use wide paper if at all possible."

"Enter paper width, W = Wide (14") N = Narrow (8 1/2")."

SUMMARY FILE DATA ENTRY

The VISIT and OWL files will not interface directly with ARD. Instead, a summary of the results for each site, each year, will provide the information needed for analysis. In future years, we hope to program the computer to calculate these from the VISIT and OWL data. Rather than require everyone to enter all old records and develop the program, we feel that it is much easier at this point to enter this information directly into the SUMMARY file. If you have entered the old VISIT records, use the PRINT program in the SUMMARIES AND REPORTS MENU to print a sorted copy. This will make entry of the SUMMARY information easy. If not, use past records.

To enter data in the SUMMARY file, access the DATA ENTRY MENU. Press G. The following message will appear

Please enter the following information

Todays date (Mo/Dy/Yr) __/__/__

District _____

When you enter the information, a blank entry screen will appear with the Entry Date already filled in. Begin entering the data. Refer to the Summary Instruction and Code sheet for the appropriate values.

When you reach the end of the record, the screen will clear and you will be asked

"Do you have additional summary records to enter? Y/N"

If you enter Y, a new entry screen will appear. To help you keep track of the entries, the Site Name, and Year of the last record you entered will appear on the top of the new entry screen.

When you finish the entry session, respond with a store the information you just entered in the permanent files. As the files grow, this will take some time. While the computer is working, the screen will read

"Be patient, I am storing the data."

The program is designed to print a hard copy of the records entered during that session automatically, so you can check for errors. When you finish entering, you will be told the following.

"This program is designed to automatically print a hard copy of the data you just entered so you can check for errors. If you cannot print at this time, the data will be stored in a file called PRNTSUMM.DBF for you to print later."

If you cannot print at this time, enter and the records will be stored for you to print later. Again, this will take time. The screen will read

"Hang on, I am storing a copy of the data for you to print later."

These may be printed through the DATA ENTRY MENU, Letter F. Instructions follow later.

If you can print, the computer will ask you for the paper size. It is best to use wide paper if at all possible, it saves a lot of space.

"PLEASE TURN PRINTER ON AND ALIGN PAPER."

"Use wide paper if at all possible."

"Enter paper width, W = Wide (14") N = Narrow (8 1/2")."

TELEMETRY FILE DATA ENTRY

For those of you that have telemetry data available, this may be used in the ARD system and will therefore need to be in a standardized dBASE database. In most areas, the radio-telemetry data will be provided by the researchers already in a database. If the database file is in dBASE III PLUS, the transfer should be easy, but you will probably need the help of someone well versed in dBASE. The transfer will be different for each district, so we will not attempt a detailed description of the process. The following is a general discussion.

If the file is in dBASE III PLUS, examine the database variables to see which are totally compatible with our TELEMETRY file. These can simply be copied over.

For some variables, we may need a simple conversion to make the data compatible, such as 1 = A. We can write some routines to fill these.

Finally, some variables in our file are designed for our needs. They will not be on the existing database files. We will need to fill these in. I have provided an edit routine. You can call up each record and enter the new data as needed. This is the simplest way, but time consuming. You may speed things up using the REPLACE command of dBASE or writing some routines. However, you will need someone with a working knowledge of dBASE III PLUS.

If the data is not already in a database, you can use the entry program to enter this

To enter data in the TELEMETRY file, access the DATA ENTRY MENU. Press I. A blank data entry screen will appear; begin entering the data. Refer to the Telemetry Instruction and Code sheet for the appropriate values.

When you reach the end of the record, the screen will clear and you will be asked

"Do you have additional telemetry records to enter? Y/N"

If you enter Y, a new entry screen will appear.

When you finish the entry session, respond with an N. The computer will then store the information you just entered in the permanent files. As the files grow, this will take some time. While the computer is working, the screen will read

"Be patient, I am storing the data."

The program is designed to print a hard copy of the records entered during that session automatically, so you can check for errors. When you finish entering, you will be told the following.

"This program is designed to automatically print a hard copy of the data you just entered so you can check for errors. If you cannot print at this time, the data will be stored in a file called PRNTTELM.DBF for you to print later."

If you cannot print at this time, enter N and the records will be stored for you to print later. Again, this will take time. The screen will read

"Hang on, I am storing a copy of the data for you to print later."

These may be printed through the DATA ENTRY MENU, Letter F. Instructions follow later.

If you can print, the computer will ask you for the paper size. It is best to use wide paper if at all possible, it saves a lot of space.

"PLEASE TURN PRINTER ON AND ALIGN PAPER."

"Use wide paper if at all possible."

"Enter paper width, W = Wide (14") N = Narrow (8 1/2")."

VISIT AND OWL FILE DATA ENTRY

To begin entering records in the VISIT and OWL files, Press letter C or D in the DATA ENTRY MENU.

The following message will appear

Please enter the following information

Todays date (Mo/Dy/Yr) __/__/__

When you enter the information, a blank entry screen will appear with the Entry Date already filled in. Begin entering the data. Refer to the Instruction and Code sheets for the appropriate values.

When you get to the end of the VISIT entry file the screen will clear and you will be asked

"Did you encounter any owls on this visit? Y/N"

If you answer N, the computer will ask

"Do you have additional visits to enter? Y/N"

If you answer Y, a blank Visit entry screen will appear. To help you keep track of the entries, the Site Name, Date, and Response Time of the last record you entered will appear on the top of the new entry screen.

If you answer Y to the first prompt, the owl screen will appear, with the common fields copied from the visit file. You do not need to reenter these. Enter the data for the first owl. Again, use the comment field for major issues such as unusual condition of the bird, injuries, brood patch, etc.

When you have reached the end of the OWL entry, the screen will again clear and you will be prompted

"Did you encounter additional owls on this visit? Y/N"

If you contacted more than 1 owl on a particular visit, answer Y to the prompt that appears at the end of the owl entry. A new owl screen will appear. Enter the data. You may enter as many owl records as needed for each visit. The computer will continue to cycle through until you tell it you are finished.

To help you keep track of the birds you have entered, the Site Name, Date, and Response Time will appear at the top of the page. As you enter information on each bird, the sex of each bird already entered for that visit also appear at the top of the screen. This will insure that you do not enter information on a bird twice.

When you have entered all the owls for that visit, answer N to the prompt. You will be prompted

"Do you have additional visits to enter? Y/N"

If you have more visits to enter, answer Y. A blank Visit screen will appear as described above.

When you are finished entering for the time, answer N to the above prompt. The computer will then store the information you just entered in the permanent files. As the files grow, this will take some time. While the computer is working, the screen will read

"Be patient, I am storing the data."

The program is designed to print a hard copy of the records entered during that session automatically, so you can check for errors. When you finish entering, you will be told the following.

"This program is designed to automatically print a hard copy of the data you just entered so you can check for errors. If you cannot print at this time, the data will be stored in files called PRNTVIST.DBF and PRNTOWL.DBF for you to print later."

If you cannot print at this time, enter N and the records will be stored for you to print later. If you can, enter Y. Storage will take time. The screen will read.

"Hang on, I am storing a copy of the data for you to print later."

These may be printed through the DATA ENTRY MENU, Letter F. Instructions follow later.

If you can print, the computer will ask you for the paper size. It is best to use wide paper if at all possible, it saves a lot of paper. Be sure to turn the printer on.

"PLEASE TURN PRINTER ON AND ALIGN PAPER."

"Use wide paper if at all possible."

"Enter paper width, W = Wide (14") N = Narrow (8 1/2")."

EDITING ALL FILES

Editing programs have been provided for all database files. Each one begins by requesting the information necessary to select a single record from the database.

For example, in the VISIT/OWL EDIT PROGRAM you will be asked for the following information <u>as it appears in the uncorrected record</u>.

Master Site Number
Month Day Year
Response Time

The computer will match this information with the appropriate record and display the existing values on the screen. The format will be the same as the entry screens. To change any value, just type the correct information over the incorrect value. Move down through the variables with the ENTER or (down arrow) keys; up with (up arrow) key. Spaces will work to erase the entry.

For the files with COMMENT sections, you can edit or add comments the same way you did during entry process.

Move the cursor to the COMMENT box

Press (ctrl) PgDn (on keyboard)

Type any necessary changes

Press (ctrl) W or (ctrl) END (keyboard) To finish the entry.

When you reach the end of the record, the computer will ask you

"Do you wish to edit another record? Y/N"

If you enter Y, you will be asked for new search information and the process will repeat.

If you answer N, the computer will return you to the DATA ENTRY MENU.

TEMPORARY FILE PRINT PROGRAM

To print with the PRINT PROGRAM, follow the instructions at the start of this instruction manual until you reach the DATA ENTRY/EDITING MENU. Type F to enter the print program.

You will be instructed

"Please turn printer on and align paper."

"Use wide paper if at all possible, it saves paper."

"Enter paper width, W = Wide (14") N = Narrow (8 1/2")."

Next you will be asked

"Please indicate which file you wish to print"

Site = S **Summary = U**

Visit = V **Telemetry = T**

Owl = O

Once the file is printer, the computer will ask

"Do you wish to print additional files? Y/N"

If you answer Y, the computer will begin by asking you paper size. If you answer N, the computer will return to the Data Entry Menu

Once the stored data is printed, the temporary files are erased. BE SURE TO KEEP the hard copy. If the hard copy contains more than 1 individual's entries, share the hard copy. You cannot easily print another.

SUMMARIES AND REPORTS

PRINTING HARD COPIES OF THE DATA

At some point you will probably want to print a hard copy of the data in the database. This may be done using the PRINT SORTED DATA FILES program in the SUMMARIES AND REPORTS MENU or you may wish to learn the dBASE III PLUS commands. You will have more control using the commands.

The program is prompt driven. It will print all records in the chosen data file. All files are indexed by LOCATION NAME, DATE and TIME. In addition, the owl file is indexed by SEX. If you wish to print only some records or a different order, you will have to use dBASE commands. Check the dBASE manuals or ask someone with dBASE expertise for further information.

Access the PRINT SORTED DATA FILES program in the SUMMARIES AND REPORTS MENU. You will be instructed

"Please turn printer on and align paper."

"Use wide paper if at all possible, it saves paper."

"Enter paper width, W = Wide (14") N = Narrow (8 1/2")."

Next you will be asked

"Please indicate which file you wish to sort and print"

Site = S **Summary = U**

Visit = V **Telemetry = T**

Owl = O

Once the file is printer, the computer will ask

"Do you wish to sort and print additional files? Y/N"

If you answer Y, the computer will begin by asking you paper size. If you answer N, the computer will return to the Reports Menu

SITE DATA FILE ENTRY SCREEN

SPOTTED OWL SITE DATA FILE

LOC. NAME _____ **MASTER SITE #** _____ **ALTERNATE LOC.** ____

DISTRICT SITE # ____ **SPECIES** _____ **DISTRICT** ___* **RESOURCE AREA** _____

SITE LOCATION: TOWNSHIP _____ **RANGE** _____ **SECTION** ___
STATE PLANE X _____ **STATE PLANE Y** _____
UTM X _____ **UTM Y** _____

PRIMARY SITE LANDOWNER: LEVEL 1 ____ **LEVEL 2** _____ **LEVEL 3** _____
SECONDARY SITE LANDOWNER: LEVEL 1 ____ LEVEL 2 _____ LEVEL 3 _____
OTHER LANDOWNERS OF SIGNIFICANCE? ____

COUNTY _____ **STATE WILDLIFE REGION** _____ **GEOGRAPHIC PROVINCE** _____

MANAGEMENT STATUS: 1988 ODFW AGREEMENT _____ **1983 ODFW AGREEMENT** ____
HCA CATEGORY _____ **HCA ID#** _____
AREA OF CONCERN _____
EA _____ **HISTORIC** ____

SPOTTED OWL SITE DATA FILE Page 2

YEARS OF USE:

72 ___	73 ___	74 ___	75 ___	76 ___	77 ___
78 ___	79 ___	80 ___	81 ___	82 ___	83 ___
84 ___	85 ___	86 ___	87 ___	88 ___	89 ___
90 ___	91 ___	92 ___	93 ___	94 ___	95 ____

OWL DATA: YEAR OWLS FIRST LOCATED _____ EXISTING PAIR (SINCE 1985)? _____
YEAR PAIR LAST VERIFIED _____ YEAR PAIR LAST REPRODUCED _____

PREHARVEST OWL ACRES:

	FEDERAL	PRIVATE
WITHIN RADIUS	_____	_____
WITHIN 0.7 MI	_____	_____
BETWEEN 0.7 MI AND RADIUS	_____	_____

COMMENTS ENTERED (Y/N) ____ ENTRY DATE __*__/__*__/__*__
COMMENTS (press (ctrl) PgDn to access comments) memo

* filled in by computer if you use the entry program.

BOLD - to be collected by all westside Oregon biologists. Other variables may be collected at the discretion of each district or biologist.

revised 4-15-91

INSTRUCTIONS AND CODES FOR SPOTTED OWL SITE DATA FILE

GENERAL INSTRUCTIONS

Designating sites

A spotted owl site is defined as a location with evidence of sustained use by owls. We will maintain information on all spotted owl responses in the database, but not all responses should lead us to designate a site. Responses that do not meet the following 'Site' definition will be recorded as 'Incidental' locations. Information on 'incidental' locations will not be included on the Site and Summary files, but will be maintained in the Visit and Owl files.

Site - Any location of breeding spotted owls, repeated location of a pair or single birds during a single season and/or over several years, presence of young before dispersal, or some other strong indication of continued occupation.

Incidental Location - One time location of a single bird, or even a pair if repeated attempts to relocate the birds fail. Also, include any responses that cannot be associated with a particular site, such as nighttime responses in between 2 known sites.

Enter all Incidental Locations in the Visit and Owl files with the generic Master Site Number (MSNO), 9999. You may name the location for your convenience. There will be no specific information in the Site File for these locations. If a site is later confirmed, we can create a Site record and replace the generic MSNO in the Visit and Owl files with the assigned MSNO. This process will keep us from creating sites around nonresident or non-territorial birds.

Site Center/Alternate Centers

The Site Center is the point you will enter in ARD for each site. Whenever possible, the Site Center should be a known nest site, or core area used by young. On sites where no nesting has been recorded, do your best with the information available. This location will hook up with the Site and Summary files for use in planning.

In most cases you will have a single site center for each site over time. However, where the bird's core area/nest grove has moved sufficiently to change some of the Site file information (ie. location, landowner, etc.) you will be able to enter additional records for each new center (see Alternate Location instructions below). A change in center should be defined by the location of a new nest tree or newly-fledged juveniles at the new location. Off-site locations of adults, regardless of how consistent, do not warrant a core area relocation without additional evidence. The same holds for older juveniles because they are mobile.

Until you find a new nest grove, leave the site center where it is. If the original site center was not based on a nest grove, and you later find a nest in the area, edit the Site record to reflect the new information and move the site center in ARD. As in all cases, the biologists should use their professional judgment in applying these rules.

Annual Edit

Some of the fields in the Site file contain information that changes over time. These include PAIR, PAYR, REPRO, and all variables that contain federal or private acres of habitat. These fields MUST be checked at the end of each season and updated if necessary. For the acreage figures, these should be reduced to reflect any sold timber sales as soon after the sale as practical or you may remove the data after you have used it for the appropriate consultations. The data should NOT be retained in the database UNLESS it is updated periodically.

Field Names

Several location fields have slightly different names than similar fields in the Visit and Owl files. These fields represent different information. Site file data corresponds to the chosen site center while Visit file data is for actual owl detections. To avoid confusion if files are merged, the fields are named differently.

CODES

LOCATION NAME (LOCNAME) - Assign these within your district. You are limited to 20 characters, so abbreviate as needed. Use historic names or assign new sites names based on the closest geographic landmark. Try not to name sites after timber sales unless sale name corresponds to geographic location. Avoid designating sites as I or II. Use relative location to distinguish between sites near the same landmark (e. g. Upper Martin Creek, Lower Little Wolf, North Martin, etc.)

MASTER SITE NUMBER (MSNO) - A state-wide numbering system with a 4 digit code. Each site is assigned a number. For older sites, use the number on the ODFW nongame database. If you have a copy of the database, pull the already assigned numbers from that database. Be sure to check the location (T-R-Sec) as well as the name as some names have mutated over the years. Make a list of the sites without numbers and Charlie Bruce , Corvallis ODF&W, will assign numbers. When you locate new sites, temporarily assign them values in the 4000s for Salem, 5000s for Eugene, 6000s for Coos Bay, 7000s for Roseburg, 8000s for Medford, or 9000s for Lakeview. You can replace them with the correct values as soon as the MSNO is assigned. Incidental locations should not be entered in this file. All temporary site numbers should be converted to permanent numbers at the end of the season, as these will be used on GIS.

ALTERNATE LOCATION (AL) - A code indicating whether there is more than 1 site record for a particular site, ie. there are alternate site center locations. See General Instructions for information on Alternate Site Locations. Alternate locations should only be designated if there is overwhelming evidence that the site core use area has moved substantially. In a few cases data may be sufficient to indicate a location is not incidental but the biologist is not yet able to designate a site. In these cases, use the temporary (T) designation. However, avoid this if at all possible. Try to decide if the location is a site.

(blank) - First (oldest) location
A - 2nd location
B - 3rd location
(Etcetera)
T - temporary site

DISTRICT SITE NUMBER (DSNO) - Feel free to assign this for your area or district as you see fit. Up to 3 spaces. Use historic numbers if you have them to reduce possible confusion.

SPECIES (SPEC) - Enter appropriate code.

STOC - Northern Spotted Owl
STVA - Barred Owl
STNE - Great Gray Owl
STXX - Spotted Owl - Barred Owl hybrid, any generation
STUN - Strix unknown species
BUVI - Great Horned Owl

for additional species, use first 2 letters of genus and species

DISTRICT (DIST) - The BLM District which is entering the data, regardless if the site location is on public or private lands. Use the same values as in ARD. This will be inputted at the beginning of each entry session via some prompts, so you will not need to add it to each record.

RESOURCE AREA (RES) - As above, for the Resource Area on which the site occurs, regardless of ownership. Because this will differ within districts, you will have to manually enter this. We are using the same values as in ARD. If a Resource Area lies within 2 Master Units, we have chosen the to use the code for the most common Master Unit to represent the entire Resource Area.

BLM Resource Areas Obsolete Resource Areas and/or Codes are marked with [ ]

Resource Area	Master Unit	Old Code	New Code
Coos Bay			
Umpqua River	South Coast	[453]	UR
Tioga	South Coast	[454]	TI
Myrtlewood	South Coast	[456]	MY
Eugene			
McKenzie	Upper Willamette	[231]	MC
South Valley	Upper Willamette	[232]	SV
	[Siuslaw	243]	
Coast Range	Siuslaw	[244]	CR
Medford			
Grants Pass	Josephine	[511]	GP
	[Jackson	521]	
	[South Coast	457]	
Glendale	Josephine	[513]	GL
Ashland	[Josephine	515]	
	Jackson	[525]	AS
	[Klamath	534]	
Butte Falls	Jackson	[526]	BF
	[Josephine	516]	

RESOURCE AREA (cont)

Roseburg			
North Umpqua	Douglas	[351]	NU
Drain	Douglas	[352]	DR
Dillard	Douglas	[353]	DI
	[South Umpqua	343]	
South Umpqua	[Douglas	354]	
	South Umpqua	[344]	SU
Salem			
Tillamook	Columbia	[111]	TL
Yamhill	[Columbia	112]	
	Alsea-Rickreall	[172]	YA
Alsea	Alsea-Rickreall	[173]	AL
Clackamas	Clackamas-Molalla	[144]	CL
	[Santiam River	184]	
Santiam	Santiam River	[185]	SA
Lakeview			
Klamath	Klamath	[834]	KL

SITE LOCATION - TOWNSHIP (LOCT) - A 4 digit code for the core area, nest site, or whatever point you use on the map for the site center. Enter Township in the first 2 spaces, right justify, and add a 0 at the start if the number is below 10. The 3rd space is for partial townships, enter 5 if it is a 1/2 township or 0 if it is a whole township. The 4th place is for N or S. Examples T 6 S = 060S T 7 1/2 S = 075S T 10 1/2 S = 105S

SITE LOCATION - RANGE (LOCR) - Same format as for township.

SITE LOCATION - SECTION (LOCS) - 2 digit code indication section. e. g. section 3 = 03.

SITE LOCATION - STATE PLANE COORDINATE - X (SSPX)
SITE LOCATION - STATE PLANE COORDINATE - Y (SSPY)

7 digit code for the site center location in state plane coordinates in meters. This is important for our interface with ARD. We should be able to get ARD to convert from UTM to SP or back, so you only need to enter 1 set. You can also get these coordinates from AutoCAD when you digitize the plot centers.

SITE LOCATION - UTM COORDINATE - X (SUTMX)
SITE LOCATION - UTM COORDINATE - Y (SUTMY)

5 (X) and 6 (Y) digit code for the location in UTM coordinates. Up to the District as to whether to enter this. We may be able to eventually get ARD to do for us. The current form is set up without decimal points. For those familiar with the system, a value of 536.23 is entered in this program as 53623. The last digit is a 10 m accuracy. If you cannot be this accurate, fill the last place with 0.

PRIMARY AND SECONDARY SITE LANDOWNERS - LEVEL 1 (SP1, SS1) - A 2 digit code indicating major landowner or agency administering land at the nest site, core area, or whatever point you use on the map for the site center.

01 - Oregon Department of Fish and Wildlife
02 - Oregon State Department of Forestry
03 - Oregon State Land Board
04 - Oregon State Park
05 - US Forest Service - Region 5
06 - US Forest Service - Region 6
07 - Bureau of Land Management
08 - US Fish and Wildlife Service
09 - US Park Service
10 - US Army Corps of Engineers
11 - Nature Conservancy
12 - Indian Reservation
13 - Oregon State University
14 - Municipality
15 - Private
16 - Washington Department of Wildlife
17 - Other
18 - Washington Department of Natural Resources

PRIMARY AND SECONDARY SITE LANDOWNERS - LEVEL 2 (SP2, SS2) - 3 digit code for secondary level of land ownership, such as National Forest, BLM District, Private Company, Municipality, Reservation, etc. for the nest site, core area, or whatever point you use on the map for the site center.

001 - Gifford Pinchot NF
002 - Mt Baker-Snoqualmie NF
003 - Olympic NF
004 - Colville NF
005 - Okanogan NF
006 - Wenatchee NF
007 - Mt Hood NF
008 - Willamette NF
009 - Siuslaw NF
010 - Umpqua NF
011 - Rogue River NF
012 - Siskiyou NF
013 - Deschutes NF
014 - Wimena NF
015 - Fremont NF
016 - Six Rivers NF
017 - Shasta Trinity NF
018 - Klamath NF
019 - Mendocino NF
020 - Modoc NF
044 - Malheur NF
045 - Ochoco NF
046 - Umatilla NF
047 - Wallowa-Whitman NF

PRIMARY AND SECONDARY SITE LANDOWNERS (cont)

021 - North Cascades NP
022 - Olympic NP
023 - Mount Rainier NP
024 - Crater Lake NP
025 - Oregon Caves NM
026 - Redwood NP

027 - Spokane BLM
028 - Salem BLM
029 - Eugene BLM
030 - Roseburg BLM
084 - Lakeview BLM
031 - Coos Bay BLM
032 - Medford BLM
033 - Redding BLM
034 - Ukiah BLM

035 - City of Corvallis
043 - City of Portland

036 - Weyerhauser
037 - International Paper
038 - Crown Zellerbach
039 - Georgia Pacific
040 - Willamette Industries
041 - Publishers
042 - US Plywood
048 - Fall City Timber
049 - Fergusen Logging Co. of Albany
052 - Roseburg Lumber Co.
053 - Richardson Co., Fall River
055 - Young and Morgan
056 - Boise Cascade
057 - Champion International
058 - Harry Clayton (Estate)
059 - Samuel Morrison
060 - Dayton Hyde
061 - Trail Creek Lumber Co.
062 - KOGAP Timber Co.
063 - Longview Fibre
065 - Arant Logging Co.
066 - C & D Lumber
067 - Douglas County Lumber Co.
068 - George Bellows
069 - Giustina Brothers
070 - Gregory Timber Resources
071 - Hanna Timber Resources
072 - Lone Rock Timber Co.
073 - Moore Mill
074 - Superior Lumber Co
075 - Sun Studs
076 - Whipple
077 - Woolley Enterprises
078 - MEDCO
079 - Timber Products
080 - T and L
081 - Spaulding
082 - Rough and Ready
083 - Mountain Fir
084 - Seneca
085 - City of Riddle
086 - Hill Family

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PRIMARY AND SECONDARY SITE LANDOWNERS - LEVEL 3 (SP3, SS3) - 3 digit code indicating Forest Service District of BLM Resource Area for the nest site, core area, or whatever point you use on the map for the site center.

USFS Districts and areas

001 - Alsea	036 - Klamath
002 - Applegate	037 - LaGrande
003 - Ashland	038 - Lakeview
004 - Baker	039 - Long Creek
005 - Barlow	040 - Lowell
006 - Bear Springs	041 - Mapleton
007 - Bear Valley	042 - McKenzie
008 - Bend	043 - Oakridge
009 - Big Summit	044 - Oregon Dunes NRA
010 - Blue River	045 - Paisley
011 - Bly	046 - Paulina
012 - Burns	047 - Pine
013 - Butte Falls	048 - Pomeroy
014 - Chemult	049 - Powers
015 - Chetco	050 - Prairie City
016 - Chiloquin	051 - Prineville
017 - Clackamas	052 - Prospect
018 - Columbia Gorge	053 - Rigdon
019 - Cottage Grove	054 - Silver Lake
020 - Crescent	055 - Sisters
021 - Crooked River NG	056 - Snow Mountain
022 - Dale	057 - [Steamboat OBSOLETE]
023 - Detroit	058 - Sweet Home
024 - Diamond Lake	059 - Tiller
025 - Eagle Cap	060 - Ukiah
026 - Estacada	061 - Union
027 - Fort Rock	062 - Unity
028 - Galice	063 - Waldport
029 - North Umpqua	064 - Walla Walla
030 - Gold Beach	065 - Wallowa Valley
031 - Hebo	066 - Zigzag
032 - Hells Canyon	091 - Hood Canal
033 - Heppner	092 - Quilcene
034 - Hood River	093 - Quinault
035 - Illinois Valley	094 - Soleduck

BLM Resource Areas

Resource Area	Master Unit	Code
Coos Bay		
Umpqua River	South Coast	453
Tioga	South Coast	454
Myrtlewood	South Coast	456

BLM Resource Area (cont.)

Eugene			
McKenzie	Upper Willamette	231	
South Valley	Upper Willamette	232	
	[Siuslaw	243]	(OBSOLETE)
Coast Range	Siuslaw	244	
Medford			
Grants Pass	Josephine	511	
	[Jackson	521]	(OBSOLETE)
	[South Coast	457]	(OBSOLETE)
Glendale	Josephine	513	
Ashland	[Josephine	515]	(OBSOLETE)
	Jackson	525	
	[Klamath	534]	(OBSOLETE)
Butte Falls	Jackson	526	
	[Josephine	516]	(OBSOLETE)
Roseburg			
North Umpqua	Douglas	351	
Drain	Douglas	352	
Dillard	Douglas	353	
	[South Umpqua	343]	(OBSOLETE)
South Umpqua	[Douglas	354]	(OBSOLETE)
	South Umpqua	344	
Salem			
Tillamook	Columbia	111	
Yamhill	[Columbia	112]	(OBSOLETE)
	Alsea-Rickreall	172	
Alsea	Alsea-Rickreall	173	
Clackamas	Clackamas-Molalla	144	
	[Santiam River	184]	(OBSOLETE)
Santiam	Santiam River	185	
Lakeview			
Klamath	Klamath	834	

OTHER LANDOWNERS (OL)

0 - no other landowners present of significance to management of the site.
1 - other landowners present of significance to management of the site

COUNTY - OREGON (CO) - Enter appropriate code.

01 - Baker	19 - Lake
02 - Benton	20 - Lane
03 - Clackamas	21 - Lincoln
04 - Clatsop	22 - Linn
05 - Columbia	23 - Malheur
06 - Coos	24 - Marion
07 - Crook	25 - Morrow
08 - Curry	26 - Multnomah
09 - Deschutes	27 - Polk
10 - Douglas	28 - Sherman
11 - Gilliam	29 - Tillamook
12 - Grant	30 - Umatilla
13 - Harney	31 - Union
14 - Hood River	32 - Wallowa
15 - Jackson	33 - Wasco
16 - Jefferson	34 - Washington
17 - Josephine	35 - Wheeler
18 - Lake	36 - Yamhill

STATE WILDLIFE REGION - OREGON (R) - Enter appropriate code. Maps are provided in this manual, Appendix A.

1 - Northwest	5 - Southeast
2 - Southwest	6 - Marine
3 - Central	7 - Columbia
4 - Northeast	

PHYSIOGRAPHIC PROVINCE (PR)- Enter appropriate code. General maps are included in this manual.

01 - Coast Ranges
02 - West Slope Oregon Cascades
03 - Marine (ie. offshore islands)
04 - Klamath Mountains
05 - Willamette Valley
06 - Rogue Valley (local subset of Klamath)
07 - Medford Valley Area (local subset of Klamath)
08 - East Slope Oregon Cascades
09 - High Lava Plains/Great Basin
10 - Blue Mountains
11 - Basin and Range
12 - Owyhee Uplands
13 - Olympic Peninsula
14 - Puget Trough
15 - Southern Washington Cascades
16 - Northern Washington Cascades
17 - Okanogan Highlands

STATUS - AGREEMENT OWLS (1988) (AP) - Enter appropriate code. Sites designated for recent (1988-1990) agreement with ODFW.

0 - Not covered by BLM-ODFW agreement or Section 318
1 - BLM-ODFW agreement site
2 - Section 318 site

MANAGEMENT STATUS - SOMA/MONITORING 1983 AGREEMENT (MS) - Enter appropriate code. This is for sites designated for the original agreement with Oregon Department of Fish and Wildlife (ODFW).

S - SOMA pair/site
M - Additional monitoring pair/site
N - no SOMA or monitoring status

HCA CATEGORY (HCACAT) - Enter the number corresponding to the HCA category

1 - within an HCA 1
2 - within an HCA 2
3 - designated HCA 3
4 - designated HCA 4 (pair between 1985 and 1989)
9 - Not within or designated an HCA 1 through 4, but with a pair in 1990 or later. (sites that would qualify as a HCA 4 if we included 1990 or later data)
0 - not qualified as one of the above categories

HCA IDENTIFICATION NUMBER (HCAID) - Enter the HCA identification number for the site if it falls within an HCA 1 or 2. Refer to the ISC report for numbers. Use the same format, letter, dash, number e. g. O-16. For HCA 3 and 4 sites or HCACAT 9 sites above, record the site Identification Number (IDNO).

AREA OF CONCERN (AOC) - Enter the appropriate code if the site lies within any of the following regional or local areas of concern:

I5	I-5/Ashland
SP	Santiam Pass
CG	Columbia Gorge
CR	Coast Range
SW	South Willamette/North Umpqua
RU	Rogue/Umpqua
LR	Little River local area of concern

STATUS - EA SITE (EA) - Enter appropriate code.

0 - Sites known in 1986 or earlier, but not analyzed in EA
1 - Sites analyzed in EA
2 - Sites found after EA (1986)

STATUS - HISTORIC SITE (HI) - This may not be of interest to all districts. Roseburg uses it to track sites found in the mid 70's. Entry in this field is not mandatory.

0 - Site found after 1978
1 - Site found before/during 1978

YEARS OF SURVEY Y72 - Y90 - <u>This field is now strictly optional.</u> These were originally designed to link records in the Visit file to the correct record from the Site file. We can now use the IDNO to accomplish this more efficiently. If this field is used, beginning with the first year a site was surveyed, and for all subsequent years, enter one of the following codes. You may enter a N for those years before a site was surveyed.

N - not surveyed
1 - record appropriate for that year
0 - record not appropriate for that year, refer to alternate site record

0 will only be used if a site core area, as indicated by a new nest tree or newly fledged young, moves far enough to change some information in the Site file. Movements in non-nesting years should not be considered a change of core area without substantial evidence. See the General Instructions for more detail.

If movement does occur, enter a <u>0</u> in the existing site record for the appropriate year and create a NEW site record with the changes. DO NOT simply edit the existing site record. Enter a 1 in the appropriate year for the new record and a 0 for all previous years in the new record. If a pair uses a new core area in 1 year, then returns to the old core area in later years, enter a 1 in the record appropriate for each year and a 0 in the other. Use your discretion as to which site was used in the intervening years. However, generally maintain the most recent nest site until the next nesting attempt. Once 2 or more records are created, only 1 should contain either a 1 or N in any year, the other should be 0.

YEARS OF SURVEY (cont)

Example: Pair A was found nesting at site center 1 in 1976, did not nest in 1977, nested at site center 2 in 1978, were not found in 1979, no survey was conducted in 1980, nested at site 1 in 1981, and did not nest in 1982 or 1983. The records would appear as follows

Site	Y74	Y75	Y76	Y77	Y78	Y79	Y80	Y81	Y82	Y83
1	N	N	1	1	0	0	0	1	1	1
2	0	0	0	0		1	N	0	0	0
				MOVED				MOVED		

The information in these variables does NOT indicate what was found on a site, just whether it was surveyed and which record is appropriate where more than 1 exists.

YEAR OWLS FIRST LOCATED (YL) - Enter the last 2 digits of the year in which an owl(s) were first located on the site. (e. g. if the site was found in 1988, enter 88).

* = The following fields marked with the * need only be entered if the owl site is affected by a FY90, or later, timber sale, e. g. lies within the radius for the physiographic province of any sale unit or associated right of way. These fields **MUST** be updated annually or removed annually.

* EXISTING PAIR? (PAIR) - Enter the appropriate code. For older data, use your best judgment.

P - if a pair has been verified on the site at least 1 year since 1985,
2 - territorial male and female, pair status unknown, has been verified on the site since 1985 and no pair has been verified during that time,
S - if a territorial single has been verified on the site since 1985 and no pair has been verified during that time, and
N - if no territorial singles or pairs have been verified since 1985.

PAIR - Pair status is established by any one of the following:

1) a male and female are heard and/or observed, either initially or through their movements, in proximity (<1/4 mile) to each other on 2 or more visits during the season;

EXISTING PAIR - PAIR DEFINITION (cont)

2) a male takes a mouse to a female;

3) a female is detected (heard or seen) on a nest; or

4) one or both adults are observed with young (young alone do not define a pair because young barred owls look like young spotted owls.

RESIDENT SINGLE - is established by detection of a single owl of the same sex on the site 2 or more times in 1 season. Repeated detection over several years may also be used, e. g. if a bird responded twice last year and once this year, you may classify it a resident single this year.

TWO BIRDS - PAIR STATUS UNKNOWN - is established by the presence or response of 2 birds of the opposite sex (pair status cannot be determined), where at least 1 member meets the resident single requirements.

UNKNOWN STATUS - is established by the response of a male and/or female which does not meet any of the above definitions.

* YEAR PAIR LAST VERIFIED (PAYR) - Enter the year in which a pair was last verified on the site. Use only the last 2 digits of the year e. g.. 1990 = 90. Enter 00 if no pair has been verified on the site.

* LAST YEAR REPRODUCTION CONFIRMED (REPRO) - Enter the last 2 digits of the last year when a pair was known to successfully reproduce on the site. Successful reproduction is defined as confirmed fledged young, that is, young out of the nest tree. Enter 00 if a pair has never been confirmed to have successfully fledged young on the site.

* FEDERAL PREHARVEST ACRES WITHIN APPROPRIATE RADIUS (FACRAD) - Enter the number of acres of suitable spotted owl habitat (generally 80+ years of age) on federal lands within a circle with the appropriate median home range radius listed below by physiographic province. Include all acres on federally administered lands.

Olympic Peninsula	2.2 miles
Washington Cascades	1.8 miles
Oregon Cascades	1.2 miles
Oregon Coast Range	1.5 miles
Klamath Province	1.3 miles

Assume all sold and uncut acres have been harvested, including all previous fiscal year sales, whether sold yet or not. Enter the acres without commas e. g.. 1,200 acres would be entered as 1200. You only need to enter data in this field when a sale is of concern for consultation with US Fish and Wildlife Service. You do not need to compute this for all owls.

* OTHER PREHARVEST ACRES WITHIN APPROPRIATE RADIUS (OACRAD) - Enter the number of acres of suitable spotted owl habitat (generally 80+ years of age) within a circle on lands not administered by the federal government (e. g. private, state, county, etc.) with the appropriate median home radius by physiographic province (see above). Enter the acres without commas e. g.. 1,200 acres would be entered as 1200. Enter only if you are calculating this data already, as for a USFWS consultation. You do not need to compute this for all owls. Do the best you can in the timeframe allowed.

* FEDERAL PREHARVEST ACRES WITHIN 0.7 MILES (FAC07) - Enter the number of acres of suitable spotted owl habitat (generally 80+ years old) on federal lands within 0.7 miles of the site center. Assume all sold, uncut, and previous fiscal year sale units have been harvested. Do not use commas. Enter only if you are calculating this data already, as for a USFWS consultation.

* OTHER PREHARVEST ACRES WITHIN 0.7 MILES (OAC07) - Enter the number of acres of suitable spotted owl habitat (generally 80+ years old) on lands not administered by the federal government (e. g. private, state, county, etc.) within 0.7 miles of the site center. Do not use commas. Enter only if you are calculating this data already, as for a USFWS consultation. Do the best you can in the timeframe allowed.

* FEDERAL PREHARVEST ACRES BETWEEN 0.7 MILES AND APPROPRIATE RADIUS (FAC07P) -Enter the number of acres of suitable spotted owl habitat (generally 80+ years old) within the "doughnut" from 0.7 to the limit of the median home range radius for the appropriate province (see FACRAD above). Assume all sold, uncut, and previous fiscal year sale units have been harvested. Do not use commas. Enter only if you are calculating this data already, as for a USFWS consultation.

* OTHER PREHARVEST ACRES BETWEEN 0.7 MILES AND APPROPRIATE RADIUS (OAC07P) - Enter the number of acres of suitable spotted owl habitat (generally 80+ years old) on lands not administered by the federal government (e. g. private, state, county, etc.) within the "doughnut" from 0.7 to the limit of the median home range radius for the appropriate province (see FACRAD above). Do not use commas. Enter only if you are calculating this data already, as for a USFWS consultation. Do the best you can in the timeframe allowed.

[* 70 ACRES ESTABLISHED? (AC70) - Enter Y if a 70 (or 80) acre core has been identified around the site center and will remain after all sold, uncut, and current fiscal year units are harvested. Enter N if no core has been specifically established or sufficient habitat will not remain. Enter only if you are calculating this data already, as for a USFWS consultation.] OBSOLETE

RESERVED LANDS (RESL) - Enter Y if the site and area within 0.7 miles of the site center lies wholly on reserved lands. Reserved lands are areas withdrawn at the Director level or higher, for example, wilderness areas, national recreation areas, national monuments, wild and scenic rivers, research natural areas, etc. Enter P if part of the 0.7 mile radius area lies on reserved lands. Enter N if the site and 0.7 mile surrounding area lies wholly outside a reserved area. Enter only if you are calculating this data already, as for a USFWS consultation. This is strictly optional and will be dropped from the entry screen.

COMMENTS ENTERED? (COM) - Enter whether the memo field contains comments or not.

Y - yes, comments are entered
N - no, no comments entered

COMMENTS (COMMENT) - Memo field. If you have comments to enter, press (ctrl) PgDn and type the comments. When you finish, press (ctrl) End or (ctrl) W. Enter only major comments nor covered by codes.

ENTRY DATE (ENTDATE) - This will be entered once at the start of each entry session. DO NOT add it to existing records. It's not that important, just a help.

IDENTIFICATION NUMBER (IDNO) - A unique number used for the connecting various files and the interface with GIS. If you use the entry program we have provided, the IDNO will be created by the computer as a direct combination of the Master Site Number and Alternate Location fields. If you do not, you will need to enter it in edit or browse mode. For example, a site with MSNO = 1226 and AL = A would have IDNO = 1226A. Site 1227, with only 1 site center, would be 1227.

SPOTTED OWL DBASE III FILE STRUCTURE
SITE DATA FILE

VARIABLE CODE	DEFINITION	SIZE	DATA TYPE
LOCNAME	LOCATION NAME	20	AN
MSNO	MASTER SITE NUMBER	4	I
AL	ALTERNATE LOCATION	1	AN
DSNO	DISTRICT SITE NUMBER	4	I
SPEC	SPECIES	5	C
DIST	DISTRICT	3	I
RES	RESOURCE AREA	3	I
LOCT	SITE LOCATION - TOWNSHIP	4	AN
LOCR	SITE LOCATION - RANGE	4	AN
LOCS	SITE LOCATION - SECTION	2	I
SSPX	SITE LOC - STATE PLANE X	7	I
SSPY	SITE LOC - STATE PLANE Y	7	I
SUTMX	SITE LOC - UTM X	5	I
SUTMY	SITE LOC - UTM Y	6	I
LOCT	SITE LOCATION - TOWNSHIP	4	AN
LOCR	SITE LOCATION - RANGE	4	AN
LOCS	SITE LOCATION - SECTION	2	I
SSPX	SITE LOC - STATE PLANE X	7	I
SSPY	SITE LOC - STATE PLANE Y	7	I
SUTMX	SITE LOC - UTM X	5	I
SUTMY	SITE LOC - UTM Y	6	I
CO	COUNTY	2	I
R	STATE WILDLIFE REGION	2	I
PR	GEOGRAPHIC PROVINCE	2	I
SP1	PRIMARY SITE LANDOWNER - LEVEL 1 (BLM)	2	I
SP2	PRIMARY SITE LANDOWNER - LEVEL 2 (DIST)	3	I
SP3	PRIMARY SITE LANDOWNER - LEVEL 3 (AREA)	3	I
SS1	SECONDARY LANDOWNER LEVEL 1	2	I
SS2	SECONDARY LANDOWNER LEVEL 2	3	I
SS3	SECONDARY LANDOWNER LEVEL 3	3	I
OL	OTHER LANDOWNERS	1	I
AP	STATUS - AGREEMENT PAIR - 1990	1	I
MS	MANAGEMENT STATUS	1	I
HCACAT	HCA CATEGORY	1	I
HCAID	HCA ID NUMBER	5	AN
AOC	AREA OF CONCERN	2	AN
EA	STATUS - EA SITE	1	I
HI	STATUS - HISTORIC	1	I
Y72	SITE IN 1972	1	AN
Y73	SITE IN 1973	1	AN
Y74	SITE IN 1974	1	AN
Y75	SITE IN 1975	1	AN
Y76	SITE IN 1976	1	AN

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	Y77	SITE IN 1977	1	AN
	Y78	SITE IN 1978	1	AN
	Y79	SITE IN 1979	1	AN
	Y80	SITE IN 1980	1	AN
	Y81	SITE IN 1981	1	AN
	Y82	SITE IN 1982	1	AN
	Y83	SITE IN 1983	1	AN
	Y84	SITE IN 1984	1	AN
	Y85	SITE IN 1985	1	AN
	Y86	SITE IN 1986	1	AN
	Y87	SITE IN 1987	1	AN
	Y88	SITE IN 1988	1	AN
	Y89	SITE IN 1989	1	AN
	Y90	SITE IN 1990	1	AN
	Y91	SITE IN 1991	1	AN
	Y92	SITE IN 1992	1	AN
	Y93	SITE IN 1993	1	AN
	Y94	SITE IN 1994	1	AN
	Y95	SITE IN 1995	1	AN
	YL	YEAR OWLS FIRST LOCATED	2	I
@	PAYR	YEAR PAIR LAST VERIFIED	2	I
@	PAIR	EXISTING PAIR	1	AN
@	REPRO	YEAR PAIR LAST REPRODUCED	2	I
@	FACRAD	FEDERAL ACRES WITHIN RADIUS	5	I
@	OACRAD	OTHER ACRES WITHIN RADIUS	5	I
@	FAC07	FEDERAL ACRES WITHIN 0.7 MILES	5	I
@	OAC07	OTHER ACRES WITHIN 0.7 MILES	5	I
@	FAC07P	FEDERAL ACRES BETWEEN 0.7 AND RADIUS	5	I
@	OAC07P	OTHER ACRES BETWEEN 0.7 AND RADIUS	5	I
@	[AC70	70 ACRE CORE?] OBSOLETE	1	C
@	RESL	RESERVED LAND	1	C
	COMMENT	COMMENTS	10	AN
**	**ENTDATE**	ENTRY DATE	8	D
#	**IDNO**	IDENTIFICATION NUMBER	5	AN

BOLD - to be collected by all westside Oregon biologists. Other variables may be collected at the discretion of each district or biologist.

** entered by the computer for information provided at the start of the entry session, if you are using the entry program.

will be created by computer from existing variables, if you are using the entry program.

@ only required for sites involved in a USFWS consultation. These variables need to be updated or removed annually as the data becomes inaccurate over time.

ANNUAL SUMMARY DATA ENTRY SCREEN

LAST ENTRY: _____ * _____ FOR ___*___

SPOTTED OWL ANNUAL SUMMARY FILE

LOC. NAME _____ DISTRICT _____* RESOURCE AREA _____

MASTER SITE # _____ ALT LOCATION _____

SUMMARY YEAR 19___ SPECIES _____ ENTRY DATE __*__/__*__/__*__

OF VISITS: DAY _____ NIGHT ___

OF BIRDS: MALES ____ FEMALES ____ PAIR STATUS ____ UNKNOWN SEX ____

BANDING STATUS:

MALE 1 _____	FEMALE 1 _____	UNKNOWN SEX 1 _____
MALE 2 _____	FEMALE 2 _____	UNKNOWN SEX 2 _____
JUVENILE 1 _____	JUVENILE 2 _____	JUVENILE 3 _____

SEX OF REPLACEMENT BIRDS:	1ST _____	2ND _____	3RD _____
SEX OF SUBADULT BIRDS:	1ST _____	2ND _____	3RD _____
MORTALITY (M, F, OR J):	1ST _____	2ND _____	3RD _____

REPRODUCTION:

NESTING SURVEY	_____	SURVEY DATES CORRECT?	_____
REPRODUCTIVE SUCCESS SURVEY	_____	SURVEY DATES CORRECT?	_____
NESTING STATUS	_____		
TREE LOCATION	_____	NEST NUMBER	_____
MAXIMUM # OF JUVENILES	_____	MAXIMUM # OF FLEDGLINGS	_____

RADIO: MALE ___ FEMALE ___ JUVENILE 1 ___ JUVENILE 2 ___

COMMENTS ENTERED? (Y/N) _____
COMMENTS (press (ctrl) PgDn to access comments) memo

* filled in by computer if you use the entry program.

BOLD - to be collected by all westside Oregon biologists. Other variables may be collected at the discretion of each district or biologist.

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INSTRUCTIONS AND CODES FOR SPOTTED OWL SUMMARY FILE

LOCATION NAME (LOCNAME) - Assign these within your district. You are limited to 20 characters, so abbreviate as needed. Use historic names or assign new sites names based on the closest geographic landmark. Try to not name sites after timber sales unless sale name corresponds to geographic location. Avoid designating sites as I or II. Use relative location to distinguish between sites near the same landmark (e. g. Upper Martin Creek, Lower Little Wolf, North Martin, etc.)

MASTER SITE NUMBER (MSNO) - A state-wide numbering system with a 4 digit code. Each site is assigned a number. For older sites, use the number on the ODFW nongame database. If you have a copy of the database, pull the already assigned numbers from that. Be sure to check the location (T-R-Sec) as well as the name, as some names have mutated over the years. Make a list of the sites without numbers and Charlie Bruce, Corvallis ODF&W, will assign numbers. When you locate new sites, temporarily assign them values in the 4000s for Salem, 5000s for Eugene, 6000s for Coos Bay, 7000s for Roseburg, 8000s for Medford, or 9000s for Lakeview. You can replace them with the correct values as soon as the MSNO is assigned. Incidental sites should not be entered in this file. All temporary site numbers should be converted to permanent numbers at the end of the season, as these will be used on GIS.

ALTERNATE LOCATION (AL) - A code indicating whether there is more than 1 site record for a particular site, ie. there are alternate site center locations. See General Instructions for information on Alternate Site Locations. Alternate locations should only be designated if there is overwhelming evidence that the core use area of a site has moved substantially. In a few cases data may be sufficient to indicate a location is not incidental but the biologist is not yet able to designate a site. In these cases, use the temporary (T) designation. However, avoid this if at all possible. Try to decide if the location is a site.

(blank) - First (oldest) location
A - 2nd location
B - 3rd location
(Etcetera)
T - temporary site

Site 1227, with only 1 site center, would be 1227.

DISTRICT (DIST) - The following are the codes for each district. These will be inputted once at the beginning of the entry session if you use the entry program.

Salem	080	Medford	110
Eugene	090	Coos Bay	120
Roseburg	100	Lakeview	834

RESOURCE AREA (RES) - Enter the correct code for the Resource Area in which the site occurs. These codes are by area, not master unit. Obsolete Resource Areas and/or Codes are marked with [ ].

Resource Area	Master Unit	Old Code	New Code
Coos Bay			
Umpqua River	South Coast	[453]	UR
Tioga	South Coast	[454]	TI
Myrtlewood	South Coast	[456]	MY
Eugene			
McKenzie	Upper Willamette	[231]	MC
South Valley	Upper Willamette	[232]	SV
	[Siuslaw	243]	
Coast Range	Siuslaw	[244]	CR
Medford			
Grants Pass	Josephine	[511]	GP
	[Jackson	521]	
	[South Coast	457]	
Glendale	Josephine	[513]	GL
Ashland	[Josephine	515]	
	Jackson	[525]	AS
	[Klamath	534]	
Butte Falls	Jackson	[526]	BF
	[Josephine	516]	
Roseburg			
North Umpqua	Douglas	[351]	NU
Drain	Douglas	[352]	DR
Dillard	Douglas	[353]	DI
	[South Umpqua	343]	
South Umpqua	[Douglas	354]	
	South Umpqua	[344]	SU

RESOURCE AREA (cont)

Salem			
Tillamook	Columbia	[111]	TL
Yamhill	[Columbia	112]	
	Alsea-Rickreall	[172]	YA
Alsea	Alsea-Rickreall	[173]	AL
Clackamas	Clackamas-Molalla	[144]	CL
	[Santiam River	184]	
Santiam	Santiam River	[185]	SA
Lakeview			
Klamath	Klamath	[834]	KL

YEAR OF SUMMARY (YR) - Enter last 2 numbers of year. ie. 1988 = 88.

SPECIES (SPEC) - Enter appropriate code.

STOC - Northern Spotted Owl
STVA - Barred Owl
STNE - Great Gray Owl
STXX - Spotted Owl - Barred Owl hybrid, any generation
STUN - Strix unknown species
BUVI - Great Horned Owl
for additional species, use first 2 letters of genus and species

NUMBER OF DAY VISITS (DV) - Enter total number of daytime visits to the site during the reporting year. DO NOT include single visits that spanned both day and night (survey time = B). DO NOT include visits classified as additional (AD). These are not counted in the number of visits needed to complete occupancy, nesting and reproductive success surveys.

NUMBER OF NIGHT VISITS (NV) - Enter total number of nighttime visits to the site during the reporting year. Include visits that spanned both day and night (survey time = B). DO NOT include visits classified as additional (AD). See reason for not including above.

NUMBER OF MALES (NM) - Enter maximum number of males on 1 visit OR if banding indicates that more than 1 male settled on the site during a single season, number of individual males encountered during the season.

NUMBER OF FEMALES (NF) - Enter maximum number of females encountered, as described above.

PAIR STATUS (PA) - Enter the pair status of any birds detected during the season. Use the following definitions of status.

P - pair or 1 adult/subadult with young
U - male/female or 2 birds - pair relationship unknown
A - pair plus additional adults/subadults
S - resident single
X - unknown, does not meet above criteria.
(blank) - no birds encountered

PAIR (P or A) - Pair status is established by any one of the following:

1) a male and female are heard and/or observed, either initially or through their movements, in proximity (<1/4 mile) to each other on 2 or more visits during the season;

2) a male takes a mouse to a female;

3) a female is detected (heard or seen) on a nest; or

4) one or both adults are observed with young (young alone do not define a pair because young barred owls look like young spotted owls.

RESIDENT SINGLE (S) - is established by detection of a single owl of the same sex on the site 2 or more times in 1 season. Repeated detection over several years may also be used, e. g. if a bird responded twice last year and once this year, you may classify it a resident single this year.

TWO BIRDS - PAIR STATUS UNKNOWN (U) - is established by the presence or response of 2 birds of the opposite sex (pair status cannot be determined), where at least 1 member meets the resident single requirements.

UNKNOWN STATUS (X) - is established by the response of a male and/or female which does not meet any of the above definitions.

NUMBER OF UNKNOWN SEX BIRDS (NU) - Enter maximum number of birds encountered for which no sex was determined. Use this only if the total number of birds was greater than the number for which sex was determined. For example, if 2 birds were seen or heard at 1 time, but over the course of the year, only a male was identified, the other bird could be listed as unknown sex. However, if 2 birds were seen, but not identified to sex, one time, and later a pair was confirmed, you should enter 0 under sex unknown

BANDING STATUS - MALE (BM & BM2) - Enter the appropriate code. Use 2nd
BANDING STATUS - FEMALE (BF & BF2) variable if 2 birds of the same
BANDING STATUS - UNKNOWN SEX (BU & BU2) sex were banded on the site in 1 year.

B - banded during summary year
C - banded in a previous season, confirmed band during the summary year (color or USFWS)
M - previously banded on another site, moved to this site
U - bird present but banding status unknown
N - not banded, bird present but unable to band during summary year
(blank) - no bird present

BANDING STATUS - JUVENILE 1 (BJ1) - Enter the appropriate code.
BANDING STATUS - JUVENILE 2 (BJ2)
BANDING STATUS - JUVENILE 3 (BJ3)

B - banded during summary year
N - not banded, bird present but unable to band during summary year
(blank) - no bird present

REPLACEMENT BIRD 1 (R1) - Enter sex of bird which replaced a previously
REPLACEMENT BIRD 2 (R2) marked or known individual on the site during
REPLACEMENT BIRD 3 (R3) the summary year

M - male
F - female
(blank) - no bird replaced

SUBADULT 1 (SA1) - Enter sex of the subadult bird(s) found on the site
SUBADULT 2 (SA2) during the summary year.
SUBADULT 3 (SA3)

M - male
F - female
U - unknown sex
(blank) - no bird present

MORTALITY 1 (M1) - Sex, for adults, or age of KNOWN mortalities, not
MORTALITY 2 (M2) just 'missing' birds. Proof of death is required.
MORTALITY 3 (M3)

M - Male, adult or subadult
F - Female, adult or subadult
U - Unknown sex, adult or subadult
J - Juvenile of the year
Z - Unknown sex, unknown age
(blank) - no mortality recorded

NESTING SURVEYS (NSR) - Enter the appropriate code for the status of nesting surveys. Nesting surveys are surveys conducted generally between March 15 and June 1 in an attempt to determine nesting status and nest tree location. These usually involve 'mousing' owls once located. Refer to the current Spotted Owl Survey Guidelines attached to this manual for a description of nesting surveys and the required protocol.

P - complete reproductive survey conducted to protocol (as follows)
N - no reproductive surveys conducted
I - Incomplete reproductive surveys (some surveys conducted but not to protocol standards)

NESTING SURVEY TIME (NST) - Enter Y if nesting survey protocol was met and all surveys were completed between April 1 and June 1 (or the appropriate dates for your area). Enter **N** if protocol was not met or some surveys were completed outside the appropriate dates. Survey results collected between March 15 and April 1 that indicate nesting may be counted toward meeting the protocol; those that do not cannot be counted.

REPRODUCTIVE SUCCESS SURVEY (RSS) - Enter code for status of reproductive surveys. Reproductive success surveys are defined as all attempts to determine the maximum number of young fledged at a site. Young are not considered fledged until they leave the nest tree. Surveys for reproductive success should be completed as soon after young fledged as possible. To avoid missing fledged young, the protocol requires all surveys be completed by July 15. Information gathered after July 15 is important but has limited value in calculating some reproductive parameters. Later visits to determine fate of young, beyond the initial and confirming counts, should be considered Additional surveys. See the attached Spotted Owl Survey Guidelines for a complete description of the survey protocol.

P - complete reproductive survey conducted to protocol (as follows)
N - no reproductive surveys conducted
I - Incomplete reproductive surveys (some surveys conducted but not to protocol standards)

[Obsolete codes, used under RS field 1987-1990
1 - reproductive survey conducted
0 - reproductive survey not conducted]

REPRODUCTIVE SUCCESS SURVEY TIME (RST) - Enter Y if the reproductive success protocol was met and all surveys were conducted before July 15 (or the appropriate dates for your area). Enter **N** if the protocol was not met or some surveys were conducted outside the appropriate dates.

REPRODUCTION - NESTING STATUS (RN) - Enter appropriate code. Use the latest stage of nesting that applies. Be conservative in your determination of nesting status. Do not call a pair nesting unless you see the male take mice to a female on a nest, have a female come off the nest and return, see young, or some other visual confirmation of nesting found after mid-April. Confirm the nest at least once later in the incubation period. Owls may engage in pre-nesting and nesting behavior early in the season without actually nesting. A male carrying mice off is not enough evidence by itself; you must see him take it to a nest, female, or young. Also, DO NOT assume failure unless you have hard evidence, such as the male eating 4+ mice during incubation, brooding, or early fledging periods (again, preferably twice) or a female sitting in the open for long periods during incubation or early fledging in poor or cold weather. Failure of the adults to respond or our inability to locate them or the juveniles, especially late in the season, does not prove they failed. Under these conditions, enter the latest confirmed stage of breeding. For details of the survey protocol, see the attached Spotted Owl Survey Guidelines.

U - unknown
V - unknown, no young fledged this year (used if you cannot determine nesting status but complete a reproductive success survey between June 1 and July 15 and determine no young are present)
N - not nesting
C - pre-nesting activity (copulation, etc.)
I - incubation or brooding
O - nestlings or branchers visible (young still in the nest or within the nest tree)
F - fledglings observed (young out of the nest tree)
X - nesting - stage unknown
Z - failed - nesting confirmed, no young fledged. For a nest to be called failed, you should have a confirmed nesting or young in a nest, followed by at least two reproductive success surveys to protocol that determine no young were produced.

OBSOLETE DEFINITION Z = failed (no definition/instructions).

NEST TREE LOCATION (TR) - Enter appropriate code. Use "approximate" if you locate a nest grove but could not pin down the exact tree, as in finding young soon after fledging.

L - nest tree located
A - nest location approx. known (between a few trees)
C - center of activity - young found by July 15
U - nest location unknown (use where not nesting or nesting but young found after July 15)

NEST NUMBER (NN) - 2 digit number for the site. You may use whatever system for numbering your district agrees to as long as individual trees can be tracked and identified. Two examples of systems currently in effect are using the last 2 digits of the year in which the tree was first found or numbering each nest at a site sequentially, starting with the earliest known one. You will want to keep a list of these assignments on paper in a file for future reference.

NUMBER OF JUVENILES (NJ) - Enter the maximum number of juveniles confirmed by sight or sound. These may be young in the nest, branchers, or fledglings.

0 - No young found, protocol met (see attached guidelines)
1-9 - Maximum number of young detected. Use whenever young are detected.
(blank) - unknown, none found but protocol not met or not surveyed during appropriate time.

NUMBER OF FLEDGLINGS (NFG) - Enter the maximum number of fledglings confirmed on the site. Fledglings are young that have left the nest tree.

0 - No fledglings found, protocol met (see attached guidelines)
1-9 - Maximum number of fledglings detected. Use whenever fledglings are detected.
(blank) - unknown, none found but protocol not met or not surveyed during appropriate time.

COMMENTS ENTERED? (COM) - Enter whether the memo field contains comments or not.

Y - yes, comments are entered
N - no, no comments entered

COMMENTS (COMMENT) - Memo field. If you have comments to enter, press (ctrl) PgDn and type the comments. When you finish, press (ctrl) End or (ctrl) W. Enter only major comments nor covered by codes.

RADIO - MALE (RM) - Indicate whether the bird carried a radio
RADIO - FEMALE (RF) transmitter during all or part of the summary year.
RADIO - JUVENILE 1 (RJ1)
RADIO - JUVENILE 2 (RJ2)

0 - no radio
1 - radio

ENTRY DATE (ENTDATE) - This will be entered once at the start of each entry session. DO NOT add it to existing records. It's not that important, just a help.

IDENTIFICATION NUMBER (IDNO) - A unique number used for the connecting various files and the interface with GIS. If you use the entry program we have provided, the IDNO will be created by the computer as a direct combination of the Master Site Number and Alternate Location fields. If you do not, you will need to enter it in edit or browse mode. For example, a site with MSNO = 1226 and AL = A would have IDNO = 1226A. Site 1227, with only 1 site center, would be 1227.

SPOTTED OWL SUMMARY FILE STRUCTURE

VARIABLE CODE	DEFINITION	SIZE	DATA TYPE
LOCNAME	SITE NAME	20	AN
MSNO	MASTER SITE NUMBER	4	I
AL	ALTERNATE LOCATIONS	1	C
IDNO	IDENTIFICATION NUMBER	5	AN
RES	RESOURCE AREA	3	I
** DIST	DISTRICT	3	I
YR	YEAR	2	I
SPEC	SPECIES	4	C
DV	# DAY VISITS	2	I
NV	# NIGHT VISITS	2	I
NM	# MALES	1	I
NF	# FEMALES	1	I
NU	# UNKNOWN SEX	1	I
PA	PAIR?	1	C
BM	BANDS - MALE 1	1	C
BM2	BANDS - MALE 2	1	C
BF	BANDS - FEMALE 1	1	C
BF2	BANDS - FEMALE 2	1	C
BU	BANDS - UNKNOWN SEX 1	1	C
BU2	BANDS - UNKNOWN SEX 2	1	C
BJ1	BANDS - JUVENILE 1	1	C
BJ2	BANDS - JUVENILE 2	1	C
BJ3	BANDS - JUVENILE 3	1	C
R1	SEX OF REPLACEMENT 1	1	C
R2	SEX OF REPLACEMENT 2	1	C
R3	SEX OF REPLACEMENT 3	1	C
SA1	SEX OF SUBADULT 1	1	C
SA2	SEX OF SUBADULT 2	1	C
SA3	SEX OF SUBADULT 3	1	C
M1	SEX/AGE OF MORTALITY 1	1	C
M2	SEX/AGE OF MORTALITY 2	1	C
M3	SEX/AGE OF MORTALITY 3	1	C
[RS	REPRODUCTIVE SURVEY OBSOLETE	1	C]
NSR	NESTING SURVEYS	1	C
NST	NESTING SURVEY TIME	1	C
RSS	REPRODUCTIVE SUCCESS SURVEY	1	C
RST	REPRODUCTIVE SUCCESS SURV. TIME	1	C
RN	NESTING STATUS	1	C
NN	NEST NUMBER	2	C
TR	LOCATION OF TREE KNOWN	1	C
NJ	MAXIMUM # OF JUVENILES	1	I
NFG	MAXIMUM # OF FLEDGLINGS	1	I

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VARIABLE CODE	DEFINITION	SIZE	DATA TYPE
RM	RADIO - MALE	1	I
RF	RADIO - FEMALE	1	I
RJ1	RADIO - JUVENILE 1	1	I
RJ2	RADIO - JUVENILE 2	1	I
COM	COMMENTS ENTERED?	1	C
COMMENTS	COMMENT	10	AN
ENTDATE	ENTRY DATE	8	D

BOLD - to be collected by all westside Oregon biologists. Other variables may be collected at the discretion of each district or biologist.

** entered by the computer for information provided at the start of the entry session, if you are using the entry program.

will be created by computer from existing variables, if you are using the entry program.

TELEMETRY FILE DATA ENTRY SCREEN

SPOTTED OWL TELEMETRY FILE

OWL INFORMATION:

ID NUMBER _____ MASTER SITE # _____

OWL ID _____ OWL CODE _____

AGE ___

TELEMETRY LOCATION INFORMATION:

DATE (Mo Dy/Yr) _____/_____/_____

POLYGON SIZE _____ QUALITY CODE _____ LOCATION TIME _____

LOCATION: UTM X _____ UTM Y _____
STATE PLANE X _____ STATE PLANE Y _____

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revised 4-15-91

INSTRUCTIONS AND CODES FOR SPOTTED OWL TELEMETRY FILE

See General Instructions, Page 8.

ID NUMBER (ID) - Consecutive unique number, up to 5 digits, for each telemetry location. The order within a site or between sites is not important, BUT every record MUST have a unique ID number.

MASTER SITE NUMBER (MSNO) - A state-wide numbering system with a 4 digit code. Each site is assigned a number. For older sites, use the number on the ODFW nongame database. I you have a copy of the database, pull the already assigned numbers from that. Be sure to check the location (T-R-Sec) as well as the name as some names have mutated over the years. Make a list of the sites without numbers and Charlie Bruce will assign numbers.

OWL ID (IDOWL) - A code for each individual owl, derived from the owl code with the last digit a number indicating whether the bird is the original on the site, or a replacement. ie. If it is the second male on the EXAMPLE CREEK, the OWL ID is ECM2, if it is the third, ECM3.

OWL CODE (OWL) - A 3 letter designation for the site and sex of the owl. ie. A female on the EXAMPLE CREEK would be ECF. This needs to be unique for each site, but not each owl of the same sex ever found on the site.

AGE (A) - Relative age of the bird at the time of the location. Make the transition from subadult to adult effective on September 1 of the year the tail feathers molt to adult form.

A - Adult
S - Subadult
D - Adult or subadult, true age undetermined. Should rarely be used.

DATE (DATE) - Date of telemetry location expressed as MM/DD/YY

POLYGON SIZE (ER) - Code for the size of the triangulation polygon. Researchers have additional codes which indicate locations that are not usable for home range. Contact the specific project for details.

1 - Visual or exact location
2 - Polygon <= 2.5 acres
3 - Polygon > 2.5 but <= 5 acres
4 - Polygon > 5 but <= 20 acres
5 - Polygon > 20 but <= 50 acres

QUALITY CODE (Q) - Code for quality of the triangulation

0 - not a good location, or other than the best location of the night in 1 stand. These will not be used.
1 - best location of the night
2 - second best location of the night, and in a different location than the best.
3 - third best location of the night.

LOCATION TIME (ACT) - Time/type of telemetry location.

1 - Diurnal location
2 - Nocturnal location
3 - Mortality site location

LOCATION - UTM and State Plane. You will probably receive the information as UTMS. We can get the computer to convert these to State Plane. ARD will need all values in State Plane coordinates.

UTM COORDINATE - X (UTMX)
UTM COORDINATE - Y (UTMY)

5 (X) and 6 (Y) digit code for the location in UTM coordinates. Up to the District as to whether to enter this. We may be able to eventually get ARD to do for us. The current form is set up without decimal points. For those familiar with the system, a value of 536.23 is entered in this program as 53623. The last digit is a 10 m accuracy. If you cannot be this accurate, fill the last place with 0.

STATE PLANE COORDINATE - X (SPX)
STATE PLANE COORDINATE - Y (SPY)

7 digit code for the site center location in state plane coordinates. This is important for our interface with ARD.

SPOTTED OWL TELEMETRY FILE STRUCTURE

VARIABLE CODE	DEFINITION	SIZE	DATA TYPE	
ID	IDENTIFICATION NUMBER	5	I	
MSNO	MASTER SITE NUMBER	4	I	
IDOWL	OWL IDENTIFICATION	4	AN	
A	AGE	1	C	
DATE	MONTH/DAY/YEAR	8	D	
ER	POLYGON SIZE	1	I	
Q	QUALITY CODE	1	I	
ACT	ACTIVITY TIME	1	I	
UTMX	UTM X COORDINATE	5	I	Enter 1 SET
UTMY	UTM Y COORDINATE	6	I	State Plane
SPX	STATE PLANE X COORDINATE	7	I	or UTM.
SPY	STATE PLANE Y COORDINATE	7	I	
OWL	OWL CODE	3	AN	

BOLD - to be collected by all westside Oregon BLM biologists if you are using this database to store telemetry data.

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VISIT FILE DATA ENTRY SCREEN

Last Entry _____*_____ Date __*__/__*__/__*__ Time: __*__

SPOTTED OWL DATABASE - VISIT DATA FILE

LOCATION NAME _____ **MASTER SITE #** _____
SPECIES _____ **RESOURCE AREA** _____

MONTH _____ **DAY** _____ **YEAR** _____
RESPONSE TIME _____ **START TIME** _____ **END TIME** _____

WEATHER: **WIND** _____ **CLOUDS** _____ **PRECIPITATION** _____

OBSERVER #1 _____ **OBSERVER #2** _____

TOWNSHIP _____ **RANGE** _____ **SECTION** _____ **1/4 SEC** ___ **1/16 SEC** ____

SURVEY: **TYPE** _____ **DAY/NIGHT** _____ **METHOD** _____
VISIT TYPE _____ **RESPONSE TYPE** _____ **# MICE** _____

 # ADULT/SUBADULT: **MALES** ____ **FEMALES** ____ **PAIR** ____ **SEX UNK** ____
 # JUVENILES _____ **# FLEDGLINGS** _____

NEST: **STATUS** _____ **LOCATION** _____ **NUMBER** _____

STAND STRUCTURE: PRIMARY _____ SECONDARY _____ TYPE OF MIX _____

SCREEN 2

ENTRY FOR : _____*_____ DATE: __*__/__*__/__*__ TIME: __*__

PRIMARY LANDOWNER - LEVEL 1 _____ SECONDARY LANDOWNER - LEVEL 1 _____

STATE PLANE: X _____ Y _____

UTM: X _____ Y _____

COMMENTS ENTERED (Y/N) _____

COMMENTS (press (ctrl) PgDn to access comments, (ctrl) End to exit) memo

BOLD - to be collected by all westside Oregon biologists. Other variables may be collected at the discretion of each district or biologist.

** entered by the computer from information provided at the start of the entry session you use the entry program.

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INSTRUCTIONS AND CODES FOR SPOTTED OWL VISIT DATA FILE

LOCATION NAME (LOCNAME) - Assign these within your district. You are limited to 20 characters, so abbreviate as needed. Use historic names or assign new sites names based on the closest geographic landmark. Try to not name sites after timber sales unless sale name corresponds to geographic location. Avoid designating sites as I or II. .Use relative location to distinguish between sites near the same landmark (e. g. Upper Martin Creek, Lower Little Wolf, North Martin, etc.)

MASTER SITE NUMBER (MSNO) - A state-wide numbering system with a 4 digit code. Each site is assigned a number. For older sites, use the number on the ODFW nongame database. If you have a copy of t e database, pull the already assigned numbers from that. Be sure to check the location (T-R-Sec) as well as the name as some names have mutated over the years. Make a list of the sites without numbers and Charlie Bruce, Corvallis ODF&W, will assign numbers. When you locate new sites, temporarily assign them values in the 4000s for Salem, 5000s for Eugene, 6000s for Coos Bay, 7000s for Roseburg, 8000s for Medford, or 9000s for Lakeview. Incidental sites may be entered in this file. For incidental locations, either assign temporary numbers and keep them or use a generic temporary number. You may also assign temporary numbers to survey areas, such as those around timber sales. Do not convert incidental or survey temporary numbers to Master Site Numbers unless they are determined to be a site. Any designated sites with temporary numbers should be converted to permanent numbers at the end of the season.

SPECIES (SPEC) - Enter appropriate code.

STOC - Northern Spotted Owl
STVA - Barred Owl
STNE - Great Gray Owl
STXX - Spotted Owl - Barred Owl hybrid, any generation
STUN - Strix unknown species
BUVI - Great Horned Owl
for additional species, use first 2 letters of genus and species

RESOURCE AREA (RES) - Enter the correct code for the Resource Area in which the site lies. These codes are by area, not master unit.

Resource Area	Master Unit	Code
Coos Bay		
Umpqua River	South Coast	453
Tioga	South Coast	454
Myrtlewood	South Coast	456

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RESOURCE AREA (cont)

Eugene			
McKenzie	Upper Willamette	231	
South Valley	Upper Willamette	232	
	[Siuslaw	243]	(OBSOLETE)
Coast Range	Siuslaw	244	
Medford			
Grants Pass	Josephine	511	
	[Jackson	521]	(OBSOLETE)
	[South Coast	457]	(OBSOLETE)
Glendale	Josephine	513	
Ashland	[Josephine	515]	(OBSOLETE)
	Jackson	525	
	[Klamath	534]	(OBSOLETE)
Butte Falls	Jackson	526	
	[Josephine	516]	(OBSOLETE)
Roseburg			
North Umpqua	Douglas	351	
Drain	Douglas	352	
Dillard	Douglas	353	
	[South Umpqua	343]	(OBSOLETE)
South Umpqua	[Douglas	354]	(OBSOLETE)
	South Umpqua	344	
Salem			
Tillamook	Columbia	111	
Yamhill	[Columbia	112]	(OBSOLETE)
	Alsea-Rickreall	172	
Alsea	Alsea-Rickreall	173	
Clackamas	Clackamas-Molalla	144	
	[Santiam River	184]	(OBSOLETE)
Santiam	Santiam River	185	
Lakeview			
Klamath	Klamath	834	

MONTH (MO) - Enter 2 digit numeric code for month, e. g. June = 06.

DAY (DY) - Enter 2 digit code for day of month.

YEAR (YR) - Enter last 2 digits of year, e. g. 1987 = 87.

DETECTION TIME (TIME) - 24 hour clock for time first bird responds. This should be recorded for all initial bird responses in the future. If no bird responds, leave it blank. For entering old data, if no response time is indicated, enter 9999. We will need some entry in this variable for linking the visit and owl file. [OBSOLETE - standard time]

START TIME (BEGT) - 24 hour clock time for start of survey. [OBSOLETE standard time]

END TIME (ENDT) - 24 hour clock time for end of survey. [OBSOLETE standard time]

WIND (W) - Enter appropriate code.

C - calm
B - light breeze
M - moderate wind
W - windy
G - gusty wind with alternating calm periods

CLOUD COVER (C) - Enter appropriate code.

C - clear
S - scattered clouds
O - overcast
F - clear with valley/ground fog

PRECIPITATION (P) - Enter appropriate code.

D - dry
F - fog
M - misty rain
R - rain
H - hail
S - snow
L - light rain/drizzle
I - intermittent rain
T - thunderstorm

OBSERVERS (OBSERVER1 and OBSERVER2) - Enter first 12 letters of observer's last name. For very common names, such as Smith, enter first initial and last name. Only 2 observers recorded per visit.

LOCATION - TOWNSHIP (TOWN) - A 4 digit code for the 'best' location of the visit. Use your judgment as to the best location. For example, if a bird responds, then moves toward you, record the first detection. If a pair responds from different areas then move together, record where they first met the pair status requirements. If a bird takes you to a nest tree, use the location of the nest tree. You may still record multiple locations and movements on the field forms and maps. If you think you may be getting responses from 2 different sites from 1 calling location, complete 2 field cards and visit file entries. Enter Township in the first 2 spaces, right justify, and add a 0 at the start if the number is below 10. The 3rd space is for partial townships, enter 5 if it is a 1/2 township or 0 if it is a whole township. The 4th place is for N or S. Examples T 6 S = 060S T 7 1/2 S = 075S T 10 1/2 s = 105S

LOCATION - RANGE (RNGE) - Same format as for township.

LOCATION - SECTION (SE) - 2 digit code indication section. e. g. section 3 = 03.

QUARTER AND SIXTEENTH SECTIONS (QS AND SS)

NW - northwest
NE - northeast
SW - southwest
SE - southeast

if location cannot be placed within 1/4 or 1/16 section, use half or center.

N5 - north half
S5 - south half
E5 - east half
W5 - west half
CT - center of section or quarter section
UN - unknown, unreported

[SURVEY TYPE <u>(used 1987-1990) OBSOLETE</u> (ST)

K - known/historic site
G - general survey - no previous NSO records. As soon as an owl responds and the biologist feels it is a stable site, it becomes a known site from that visit.]

SURVEY TIME (DN) - Enter appropriate codes.

D - day
N - night
B - both

SURVEY METHOD (SM) - Enter appropriate codes. Calling from a known calling point <u>or walking into the core area and then calling,</u> usually falls under 3, general survey routes under 1 and 2.

1 - calling - continuous walking survey
2 - calling - spot call at evenly spaced intervals
3 - calling - spot call at irregular intervals <u>or assigned points</u>
T - telemetry
V - visual search <u>(no calling)</u>
E - unsolicited sighting/calling
U - unknown, for old records

VISIT TYPE (VT) - Enter appropriate codes. For the purposes of the BLM surveys, use the following definitions:

OC - occupation survey only
ON - occupation and nesting survey
NE - nesting survey only
RO - occupation and reproductive success survey
RS - reproductive success survey only
AD - additional visit
UN - unknown visit type

DEFINITIONS

Occupation Surveys- all attempts to determine the presence of a male, female, or pair of owls until the final occupation is determined. Once presence of a pair is confirmed, all further visits that year are Nesting, Reproduction, or Additional surveys. A single visit may be both an Occupation and Reproductive Success or an Occupation and Nesting survey.

Nesting Surveys - all attempts to determine if the owls are nesting or locate nest trees. These surveys may be conducted between April 1 and June 1. Positive nesting survey results collected between March 15 and April 1 may also be counted.

Reproductive Success Surveys - all attempts to determine the maximum number of young fledged on a site. Surveys of sites after July 15 should not be considered Reproductive surveys. Later visits to determine fate of young, after their initial count, should be considered Additional surveys.

Additional Surveys - any visit which cannot be classified as an Occupation, Nesting, and/or Reproductive Success surveys. This would include checkups on known young, banding of birds after occupation and reproduction has been determined, etc.

OBSOLETE CODES (used 1987-1990)
OR - occupation and reproduction survey
RP - reproduction survey only

OBSOLETE DEFINITION
Reproduction - all attempts to determine whether a pair is nesting, stage of nesting, location of nest tree, and number of young produced until a final count of maximum number of young is complete. Efforts to locate nest trees should be completed by May 15, before the young fledge. Surveys of sites after July 1 should not be considered Reproductive surveys unless (1) the pair was known to have nested, but young have not yet been located or (2) young are found, regardless of our knowledge of the pair's nesting status. Later visits to determine fate of young, after their initial count, should be considered Additional surveys.

RESPONSE TYPE (RT) - Enter appropriate code. Use V if ANY birds were seen. Information for each specific owl encountered will be recorded in the Owl data file. These are listed in order of priority, the highest being visual contact. Use the 'highest' appropriate code.

V - visual for at least 1 bird
T - telemetry/triangulation
A - auditory only
S - sign only (feathers, whitewash, pellets, etc.
U - unknown
N - none observed
O - other describe in comments

MICE (M) - Enter the number of prey taken by all birds on that site. If no prey were offered, enter N, If you OFFERED prey but the owls did not take any, enter 0. We recommend that you record the fate of each prey item in the comments section of the field cards.

0-9 - number of prey items fed to owl(s) Enter 0 if prey presented but not taken
N - no attempt to 'mouse' owls
U - unknown

NUMBER OF ADULT/SUBADULT MALES (NM) - Enter total number of adult/subadult males encountered at that site during that visit. There should always be an entry in this space. If no owls are encountered, enter 0.

0-9 - enter number of adult or subadult males encountered
[D - dead bird OBSOLETE]
U - unknown

NUMBER OF ADULT/SUBADULT FEMALES (NF) - Enter total number of adult/subadult females encountered at that site during that visit. There should always be an entry in this space. If no owls are encountered, enter 0.

0-9 - enter number of adult or subadult females encountered
[D - dead bird OBSOLETE]
U - unknown

PAIR STATUS (PA) - Enter the pair status of any birds detected during the visit. Use the following definitions of status.

P - pair or 1 adult/subadult with young
U - male/female or 2 birds - pair relationship unknown
A - pair plus additional adults/subadults
S - only one bird detected
J - Juveniles found, no adults encountered
(blank) - no birds encountered

PAIR STATUS DEFINITIONS (cont)

PAIR (P or A) - Pair status on a given visit is established by any of the following:

1) a male and female are heard and/or observed, either initially or through their movements, in close proximity (<1/4 mile) to each other;

2) a male takes a mouse to a female;

3) a female is detected (heard or seen) on a nest; or

4) one or both adults are observed with young (young alone do not define a pair as young barred owls look like young spotted owls.

SINGLE (S) - is established by detection of a single owl on the site.

TWO BIRDS - PAIR STATUS UNKNOWN (U) - is established by the presence or response of 2 birds of the opposite sex (pair status cannot be determined).

NUMBER OF ADULT/SUBADULTS OF UNKNOWN SEX (NU) - Enter total number of adult/subadult owls for which sex could not be determined. There should always be an entry in this space. If no owls are encountered, enter 0.

0-9 - enter number of adult or subadult of unknown sex encountered
[D - dead bird OBSOLETE]
U - unknown

NUMBER OF JUVENILES (J) - Enter total number of juveniles detected on that visit. There should always be an entry in these spaces. If no juveniles are encountered, enter 0.

0 - no young detected, adults present and 'moused'
1-9 - number of juveniles present. Use whenever young are detected.
U - Unknown, e. g. no adults present, results inconclusive, etc.

NUMBER OF FLEDGLINGS (NFG) - Enter the maximum number of fledglings confirmed on that visit. Fledglings are young that have left the nest tree.

0 - No fledglings found, protocol met (see attached guidelines)
1-9 - Maximum number of fledglings detected. Use whenever fledglings are detected.
(blank) - unknown, none found but protocol not met or not surveyed during appropriate time.

NESTING/REPRODUCTIVE STATUS (NS) - Enter appropriate code whenever owls are located, based only on the information gathered on this visit. DO NOT use previous information. Be conservative in your determination status. Do not call a pair nesting unless you see the male take mice to a female, have a female come off the nest and return, see young, or some other visual confirmation of nesting found after mid-April. If possible, confirm the nest at least once later in the incubation period. Owls may display pre-nesting or nesting behavior early in the season without actually nesting. A male carrying mice off is not enough evidence by itself.

U - unknown
[V - unknown, no young produced this year OBSOLETE]
N - not nesting
C - pre-nesting activity (copulation, etc.)
I - incubation or brooding
O - nestlings or branchers detected
F - fledglings observed
X - nesting - stage unknown
[Z - failed OBSOLETE does not apply to single visits]
Y - no young present, use only for visits where a valid reproduction survey is conducted after June 1.

NEST TREE LOCATION (TR) - Enter appropriate code whenever nest status is not Unknown or Not Nesting. Use A for approximate nest location if you locate a nest grove but could not pin down the exact tree, as in finding young soon after fledging.

L - nest tree located
A - nest location approximately known (within a few trees)
C - center of activity - young found by July 15
U - nest location unknown (use where not nesting or nesting but young found after July 15)

NEST NUMBER (NN) - This is optional except in situations where you locate birds nesting in a previously used nest tree which has been numbered. The number should then be recorded on the visit you first locate the nesting birds for the year. Enter a 2 digit number for the site. You may use whatever system for numbering your district agrees to as long as individual trees can be tracked and identified. Two examples of systems currently in effect are using the last 2 digits of the year in which the tree was first found or numbering each nest at a site sequentially, starting with the earliest known one. You may want to keep a list of these assignments on paper in a file for future reference.

VEGETATIVE STRUCTURE (V1 and V2) - Enter appropriate code for stand within site distance of or immediately adjacent to the owl. Enter only if at least 1 bird is seen and you don't think your hooting has moved them very far. Enter primary stand condition as V1. If a second type exists within the immediate vicinity of the owl, enter the second type as V2 and indicate the degree of mixing with RA

1. Old-growth. Multi-layered canopy with large overstory trees characterized by large diameter limbs, broken tops, etc. Decadence shown by presence of snags and dead-topped trees. Openings created by fallen trees, often with large logs on forest floor

2 Mature. Generally single layered canopy, large canopy trees (dbh 20-40") relatively uniform in size, lacking large limbs and broken tops. Little decadence.

3. Young. Uniform size canopy trees, most 11-20 " dbh, some up to 30". Relatively closed canopy, little understory vegetation.

4. Pole. Uniform size canopy trees, most 5-11 " dbh. Relatively closed canopy with little understory vegetation. Few branches within 15' of ground.

5. Sapling. Uniform size canopy trees, < 5" dbh. Relatively closed canopy with little understory vegetation. Branches common within 15' of ground.

6. Early Regeneration, Clearcut/burn. Conifers small, not creating closed canopy. Often brushy. Includes shrubs, herbs, and small conifers. Conifer branches often extend to ground.

7. Non-conifer Forest - Primarily hardwoods, cannot be comfortably classified as one of the above.

RELATIVE ABUNDANCE (RA) - if a secondary structure type is indicated in V2, indicate the type or extent of the mixture with the appropriate code.

1 - one type only
M - V1/V2 mixed in about equal proportions
P - V1 with patches of V2
S - V1 with scattered stems of type V2
I - V1 with isolated islands of V2

LANDOWNERS - LEVEL 1 (P1 AND S1) - 2 digit code indicating major landowner or agency administering land, at the location the owl(s) respond. If a second landowner exists within the immediate vicinity (e. g. 1/4 mile) of the owl, enter the second landowner as S1.

01 - Oregon Department of Fish and Wildlife
02 - Oregon State Department of Forestry
03 - Oregon State Land Board
04 - Oregon State Park
05 - US Forest Service - Region 5
06 - US Forest Service - Region 6
07 - Bureau of Land Management
08 - US Fish and Wildlife Service
09 - US Park Service
10 - US Army Corps of Engineers
11 - Nature Conservancy
12 - Indian Reservation
13 - Oregon State University
14 - Municipality
15 - Private
16 - Washington Department of Wildlife
17 - Other
18 - Washington Department of Natural Resources

LANDOWNERS - LEVEL 2 (P2 AND S2) - Not required for BLM surveys. A 3 digit code for secondary level of land ownership, such as National Forest, BLM District, Private Company, Municipality, Reservation, etc.

001 - Gifford Pinchot NF
002 - Mt Baker-Snoqualmie NF
003 - Olympic NF
004 - Colville NF
005 - Okanogan NF
006 - Wenatchee NF
007 - Mt Hood NF
008 - Willamette NF
009 - Siuslaw NF
010 - Umpqua NF
011 - Rogue River NF
012 - Siskiyou NF
013 - Deschutes NF
014 - Wimena NF
015 - Fremont NF
016 - Six Rivers NF
017 - Shasta Trinity NF
018 - Klamath N
019 - Mendocino NF
020 - Modoc NF
044 - Malheur NF
045 - Ochoco NF
046 - Umatilla NF
047 - Wallowa-Whitman NF

021 - North Cascades NP
022 - Olympic NP
023 - Mount Rainier NP
024 - Crater Lake NP
025 - Oregon Caves NM
026 - Redwood NP

027 - Spokane BLM
028 - Salem BLM
029 - Eugene BLM
030 - Roseburg BLM
084 - Lakeview BLM
031 - Coos Bay BLM
032 - Medford BLM
033 - Redding BLM
034 - Ukiah BLM

LANDOWNER - LEVEL 2 (cont)

035 - City of Corvallis
064 - Elliott State Forest

036 - Weyerhauser
037 - International Paper
038 - Crown Zellerbach
039 - Georgia Pacific
040 - Willamette Industries
041 - Publishers
042 - US Plywood
048 - Fall City Timber
049 - Fergusen Logging Co. of Albany
052 - Roseburg Lumber Co.
053 - Richardson Co., Fall River
055 - Young and Morgan
056 - Boise Cascade
057 - Champion International
058 - Harry Clayton (Estate)
059 - Samuel Morrison
060 - Dayton Hyde
061 - Trail Creek Lumber Co.
062 - KOGAP Timber Co.

043 - City of Portland
054 - Warm Springs Indian Res.

063 - Longview Fibre
065 - Arant Logging Co.
066 - C $ D Lumber
067 - Douglas County Lumber Co.
068 - George Bellows
069 - Giustina Brothers
070 - Gregory Timber Resources
071 - Hanna Timber Resources
072 - Lone Rock Timber Co.
073 - Moore Mill
074 - Superior Lumber Co
075 - Sun Studs
076 - Whipple
077 - Woolley Enterprises
078 - MEDCO
079 - Timber Products
080 - T and L
081 - Spaulding
082 - Rough and Ready
083 - Mountain Fir
084 - Seneca
085 - City of Riddle
086 - Hill Family

LANDOWNERS - LEVEL 3 (P3 AND S3) - 3 digit code indicating Forest Service District of BLM Resource Area.

USFS Districts and areas

001 - Alsea
002 - Applegate
003 - Ashland
004 - Baker
005 - Barlow
006 - Bear Springs
007 - Bear Valley
008 - Bend
009 - Big Summit
010 - Blue River
011 - Bly
012 - Burns
013 - Butte Falls
014 - Chemult
015 - Chetco
016 - Chiloquin
017 - Clackamas

036 - Klamath
037 - LaGrande
038 - Lakeview
039 - Long Creek
040 - Lowell
041 - Mapleton
042 - McKenzie
043 - Oakridge
044 - Oregon Dunes NRA
045 - Paisley
046 - Paulina
047 - Pine
048 - Pomeroy
049 - Powers
050 - Prairie City
051 - Prineville
052 - Prospect

LANDOWNERS - LEVEL 3 (cont)

USFS Districts and areas (cont)

018 - Columbia Gorge
019 - Cottage Grove
020 - Crescent
021 - Crooked River NG
022 - Dale
023 - Detroit
024 - Diamond Lake
025 - Eagle Cap
026 - Estacada
027 - Fort Rock
028 - Galice
029 - North Umpqua
030 - Gold Beach
031 - Hebo
032 - Hells Canyon
033 - Heppner
034 - Hood River
035 - Illinois Valley
053 - Rigdon
054 - Silver Lake
055 - Sisters
056 - Snow Mountain
[057 - Steamboat OBSOLETE]
058 - Sweet Home
059 - Tiller
060 - Ukiah
061 - Union
062 - Unity
063 - Waldport
064 - Walla Walla
065 - Wallowa Valley
066 - Zigzag
091 - Hood Canal
092 - Quilcene
093 - Quinault
094 - Soleduck

BLM Resource Areas

Resource Area	Master Unit	Code	
Coos Bay			
Umpqua River	South Coast	453	
Tioga	South Coast	454	
Myrtlewood	South Coast	456	
Eugene			
McKenzie	Upper Willamette	231	
South Valley	Upper Willamette	232	
	[Siuslaw	243]	(OBSOLETE)
Coast Range	Siuslaw	244	
Medford			
Grants Pass	Josephine	511	
	[Jackson	521]	(OBSOLETE)
	[South Coast	457]	(OBSOLETE)
Glendale	Josephine	513	
Ashland	[Josephine	515]	(OBSOLETE)
	Jackson	525	
	[Klamath	534]	(OBSOLETE)
Butte Falls	Jackson	526	
	[Josephine	516]	(OBSOLETE)

BLM RESOURCE AREA (cont)

Roseburg			
North Umpqua	Douglas	351	
Drain	Douglas	352	
Dillard	Douglas	353	
	[South Umpqua	343]	(OBSOLETE)
South Umpqua	[Douglas	354]	(OBSOLETE)
	South Umpqua	344	
Salem			
Tillamook	Columbia	111	
Yamhill	[Columbia	112]	(OBSOLETE)
	Alsea-Rickreall	172	
Alsea	Alsea-Rickreall	173	
Clackamas	Clackamas-Molalla	144	
	[Santiam River	184]	(OBSOLETE)
Santiam	Santiam River	185	
Lakeview			
Klamath	Klamath	834	

STATE PLANE AND UTMS - It is only recommended to enter these values for banding locations and the nest tree for each year (only active nests).

SITE LOCATION - STATE PLANE COORDINATE - X (SPX)
SITE LOCATION - STATE PLANE COORDINATE - Y (SPY)

7 digit code for the location in state plane coordinates in meters. This is important for our interface with ARD. We should be able to get ARD to convert from UTM to SP or back, so you only need to enter 1 set.

SITE LOCATION - UTM COORDINATE - X (UTMX)
SITE LOCATION - UTM COORDINATE - Y (UTMY)

5 (X) and 6 (Y) digit code for the location in UTM coordinates. Up to the District as to whether to enter this. We may be able to eventually get ARD to do for us. The current form is set up without decimal points. For those familiar with the system, a value of 536.23 is entered in this program as 53623. The last digit is a 10 m accuracy. If you cannot be this accurate, fill the last place with 0.

COMMENTS ENTERED? (COM) - Enter whether the memo field contains comments or not.

Y - yes, comments are entered
N - no, no comments entered

COMMENTS (COMMENTS) - Memo field. If you have any comments to enter, press (ctrl) PgDn and type comments. When you finish, press (ctrl) W or (ctrl) End to exit back to the entry forms. Enter only major comments not covered by codes, such as condition of dead bird; if a new previously banded bird shows up in a new site, where did it come from; where a bird banded at this site last year showed up, etc.

TEMPERATURE (TEMP) - Degrees in Centigrade, convert if necessary.

ELEVATION (ELEV) - Not required for BLM surveys. 4 digit code, elevation in feet

COVER TYPE (C1, C2, C3) - Not required for BLM surveys. Enter the code that best describes the vegetation within sight distance of the owl(s). Only record vegetation if you have reason to believe your survey efforts did not cause the bird to move, ie. they have not flown in to you. If the location lies on the interface of 2 or 3 vegetation cover types, you may enter up to 3 types. Use this sparingly, not just single trees in an otherwise uniform forest.

01 - coastal spruce - hemlock
02 - lodgepole pine (shorepine)
03 - western redcedar
04 - Douglas fir - western hemlock
05 - Douglas fir - Port Orford cedar
06 - Douglas fir - tanoak - California laurel - madrone
07 - true fir - western hemlock - Douglas fir
08 - noble fir
09 - silver fir - mountain hemlock
10 - Alaska cedar forest
11 - southwestern Oregon mixed conifer forest - predominantly Douglas fir associations with variable amounts of white fir, incense cedar, western white pine, sugar pine, ponderosa pine, canyon live oak, California black oak, madrone, and Pacific yew.
12 - interior grand fir - Douglas fir forest, including variable amounts of ponderosa pine, incense cedar, western white pine, sugar pine, western larch, and lodgepole pine.
13 - grand fir or white fir forest with variable amounts of Douglas fir and ponderosa pine.
14 - white fir or grand fir - red fir forest with variable amounts of Douglas fir.
15 - red fir forest
16 - interior lodgepole pine forest
17 - ponderosa pine forest
18 - juniper woodland
19 - Jeffery pine forest
20 - Douglas fir - white fir - bigleaf maple forest (interior valley)

COVER TYPES (cont)

21 - oak woodlands including mixtures of oak and madrone
22 - deciduous bottomlands - stands of cottonwoods, western ash, red alder, bigleaf maple, etc.
23 - red alder forest
24 - quaking aspen forest
25 - riparian willows, shrubs, cottonwoods
26 - riparian California laurel
27 - deciduous trees planted around homesteads, feedlots, etc.
28 - evergreen brushfields
29 - deciduous brushfields
30 - grassy coastal headlands
31 - moist meadow
32 - dry meadow
33 - subalpine meadow or grassland
34 - steppe (grasslands of E. Oregon and Washington)
35 - shrub-steppe (high desert sagebrush communities)
36 - bitterbrush - grass associations
37 - desert shrub (communities dominated by Atriplex sp.)
38 - mountain mahogany stands
39 - agricultural lands (tilled/grazed)
40 - interior valley prairies (mixtures of grass & shrub such as Rosa or blackberries
41 - urban trees or shrubs
42 - freshwater lake, pond, or reservoir
43 - saltwater bay or estuary
44 - marsh or swamp, including tidal marsh, bog
45 - spring or seep
46 - river, stream, or seep
47 - mudflats, alkali flats
48 - beach (tidal area)
49 - dunes (above tidal area)
50 - cave
51 - cliff
52 - talus slope, rock outcrop
53 - rocky flat (sparse shrub or herbaceous cover)
54 - snowfields, glaciers
55 - alpine rocks, mountain tops
56 - ocean
57 - rocky headland (coastal)
58 - offshore rocks or islands
59 - garbage dump
60 - sewage or other waste treatment ponds
61 - golf course
62 - bridge
63 - barn or other building
64 - western hemlock - western redcedar forest
65 - western hemlock - silver fir

STAND AGE (SA) - Not required for BLM surveys. Record measured age only, do not estimate. You may be able to count rings on stumps of apparently similar age in nearby clearcuts or roadcuts.

01 - old-growth (over 200 years old)
02 - mature (80 - 200 years old)
03 - mature with scattered individuals or patches of old-growth
04 - 60 - 80 year old forest (medium to large sawtimber)
05 - type 04 with scattered individuals or patches of old-growth
06 - 40 60 year old forest (small sawtimber)
07 - type 06 with scattered individuals or patches of old-growth
08 - 20 - 40 year old forest (early regeneration)
09 - 5 to 20 year old cutovers or burns
10 - 0 - 5 year old cutovers or burns
11 - old-growth/mature mix, both age groups common
12 - type 04 with considerable amounts of old-growth present
13 - type 08 with scattered individuals or patches of old growth

STAND CONDITION (SC) - Not required for BLM surveys.

01 - unlogged stand (no logging since establishment of stand)
02 - salvaged for dead and down material
03 - moderate selective removal
04 - heavy selective removal
05 - seedtree or shelterwood removal
06 - clear-cut - treatment unknown
07 - precommercially thinned stand
08 - small patch of unharvested old growth surrounded by selectively logged forest
09 - small patch of unharvested young growth (60-100 years) surrounded by selectively logged young growth
10 - firewood harvest (commercial sale)
11 - firewood harvest (public permit harvest)
12 - recent wildfire - trees killed (pre-salvage)
13 - recent wildfire - primarily underburn
15 - unburned patch in recent wildfire (pre-salvage)
14 - other - describe in comments section

LAND USE CATEGORY (LU) - Not required for BLM surveys.

01 - commercial forest - unrestricted
02 - commercial forest - restricted (visual, soils, etc)
03 - wilderness
05 - national park
06 - state park
07 - wildlife refuge
08 - research natural area
09 - agriculture
10 - rangeland
11 - forest used for research, teaching, and commercial harvest
12 - withdrawn - noncommercial forest
13 - scenic river corridor or other scenic area
14 - other - describe in comments
15 - rural residential
16 - withdrawn - not covered by above
17 - HCA 1 or 2

ENTRY DATE (ENTDATE)

This will be entered once at the start of each entry session. DO NOT add it to existing records. It's not that important, just a help.

SPOTTED OWL DBASE III FILE STRUCTURE

VISIT DATA FILE

VARIABLE CODE	DEFINITION	SIZE	DATA TYPE	COMMENTS
LOCNAME	LOCATION NAME	20	AN	
MSNO	MASTER SITE NUMBER	4	I	
SPEC	SPECIES	4	C	
RES	RESOURCE AREA	3	I	
MO	MONTH	2	I	
DY	DAY	2	I	
YR	YEAR	2	I	
TIME	DETECTION TIME	4	I	
BEGT	BEGIN TIME	4	I	
ENDT	END TIME	4	I	
W	WIND	1	C	
C	CLOUD COVER	1	C	
P	PRECIPITATION	1	C	
OBSERVER1	OBSERVER #1	12	C	
OBSERVER2	OBSERVER #2	12	C	
TOWN	TOWNSHIP	4	AN	
RNGE	RANGE	4	AN	
SE	SECTION	2	I	
QS	QUARTER SECTION	2	C	
SS	SIXTEENTH SECTION	2	C	
[ST	SURVEY TYPE OBSOLETE	1	C]	
DN	DURVEY TIME	1	C	
SM	SURVEY METHOD	1	AN	
VT	VISIT TYPE	2	C	
RT	RESPONSE TYPE	1	C	
M	MOUSE	1	AN	
NM	# ADULT/SUBADULT MALES	1	I	
NF	# ADULT/SUBADULT FEMALES	1	I	
NU	# ADULT/SUBADULT UNKNOWN SEX	1	I	
PA	PAIR	1	C	
J	# JUVENILES	1	I	
NFG	# FLEDGLINGS	1	C	
NS	NEST/REPRODUCTIVE STATUS	1	C	
NL	NEST LOCATION	1	C	
NN	NEST NUMBER	2	I	
V1	STAND STRUCTURE - PRIMARY	1	I	
V2	STAND STRUCTURE - SECONDARY	1	I	
RA	RELATIVE ABUNDANCE - MIX	1	I	

revised 4-15-91

VARIABLE CODE	DEFINITION	SIZE	DATA TYPE	COMMENTS
P1	PRIMARY LANDOWNER - LEVEL 1	2	I	
P2	PRIMARY LANDOWNER - LEVEL 2	3	I	
P3	PRIMARY LANDOWNER - LEVEL 3	3	I	
S1	SECONDARY LANDOWNER - LEVEL 1	2	I	
S2	SECONDARY LANDOWNER - LEVEL 2	3	I	
S3	SECONDARY LANDOWNER - LEVEL 3	3	I	
SPX	STATE PLANE X COORD.	7	I	
SPY	STATE PLANE Y COORD.	7	I	
UTMX	UTM X COORDINATE	5	I	
UTMY	UTM Y COORDINATE	6	I	
TEMP	TEMPERATURE	3	I	
ELEV	ELEVATION	4	I	
C1	COVER TYPE - PRIMARY	2	I	
C2	COVER TYPE - SECONDARY	2	I	
C3	COVER TYPE - TERTIARY	2	I	
SA	STAND AGE	2	I	
SC	STAND CONDITION	2	I	
LU	LAND USE CATEGORY	2	I	
COM	COMMENTS ENTERED?	1	C	
COMMENT	COMMENTS	10	AN	
ENTDATE	ENTRY DATE	8	D	

BOLD - to be collected by all westside Oregon biologists. Other variables may be collected at the discretion of each district or biologist.

OWL FILE DATA ENTRY SCREEN

Entries for _____ * __/__/__
You have already entered

SPOTTED OWL DATABASE - OWL DATA FILE

SPECIES _____ * **MASTER SITE #** _____ * **LOCATION NAME** _____ *
RESOURCE AREA _____ *

MONTH _____ * **DAY** _____ * **YEAR** _____ * **RESPONSE TIME** _____ *

OBSERVATION TYPE ____

USFWS BAND # _____-_____ **LEG** ____
LEG BAND COLOR **TOP COLOR** _____ **LEG** ____ **PATTERN** _____
BOTTOM COLOR _____ **TAB COLOR** _____

SEX _____ **AGE** _____

TAIL: # BARS - **RIGHT** _____ **LEFT** _____ **TIP COLOR** ____ **TIP SHAPE** _____

WEIGHT _____ **RADIO** ___

LOCATION: **10' LATITUDE BLOCK** _____ **10' LONGITUDE BLOCK** _____
LOCATION CODE _____
COMMENTS ENTERED (Y/N) ___
COMMNENTS (press (ctrl) PgDn to access comments) memo

BOLD - to be collected by all westside Oregon biologists. Other variables may be collected at the discretion of each district or biologist.

revised 4-15-91

INSTRUCTIONS AND CODES FOR SPOTTED OWL OWL DATA FILE

LOCATION NAME (LOCNAME) - Assign these within your district. You are limited to 20 characters, so abbreviate as needed. Use historic names or assign new sites names based on the closest geographic landmark. Try to not name sites after timber sales unless sale name corresponds to geographic location. Avoid designating sites as I or II. Use relative location to distinguish between sites near the same landmark (e. g. Upper Martin Creek, Lower Little Wolf, North Martin, etc.)

MASTER SITE NUMBER (MSNO) - A state-wide numbering system with a 4 digit code. Each site is assigned a number. For older sites, use the number on the ODFW nongame database. If you have a copy of the database, pull the already assigned numbers from that. Be sure to check the location (T-R-Sec) as well as the name as some names have mutated over the years. Make a list of the sites without numbers and Charlie Bruce, Corvallis ODF&W, will assign numbers. When you locate new sites, temporarily assign them values in the 4000s for Salem, 5000s for Eugene, 6000s for Coos Bay, 7000s for Roseburg, 8000s for Medford, or 9000s for Lakeview. Incidental sites may be entered in this file. For incidental locations, either assign temporary numbers and keep them or use a generic temporary number. You may also assign temporary numbers to survey areas, such as those around timber sales. Do not convert incidental or survey temporary numbers to Master Site Numbers unless they are found to be a site. Any true sites with temporary numbers should be converted to permanent numbers at the end of the season.

RESOURCE AREA (RES) - Enter the correct code for the Resource Area in which the site occurs. These codes are by area, not master unit. Obsolete Resource Areas and/or Codes are marked with [ ].

Resource Area	Master Unit	Old Code	New Code
Coos Bay			
Umpqua River	South Coast	[453]	UR
Tioga	South Coast	[454]	TI
Myrtlewood	South Coast	[456]	MY
Eugene			
McKenzie	Upper Willamette	[231]	MC
South Valley	Upper Willamette	[232]	SV
	[Siuslaw	243]	
Coast Range	Siuslaw	[244]	CR

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RESOURCE AREA (cont)

Medford			
Grants Pass	Josephine	[511]	GP
	[Jackson	521]	
	[South Coast	457]	
Glendale	Josephine	[513]	GL
Ashland	[Josephine	515]	
	Jackson	[525]	AS
	[Klamath	534]	
Butte Falls	Jackson	[526]	BF
	[Josephine	516]	
Roseburg			
North Umpqua	Douglas	[351]	NU
Drain	Douglas	[352]	DR
Dillard	Douglas	[353]	DI
	[South Umpqua	343]	
South Umpqua	[Douglas	354]	
	South Umpqua	[344]	SU
Salem			
Tillamook	Columbia	[111]	TL
Yamhill	[Columbia	112]	
	Alsea-Rickreall	[172]	YA
Alsea	Alsea-Rickreall	[173]	AL
Clackamas	Clackamas-Molalla	[144]	CL
	[Santiam River	184]	
Santiam	Santiam River	[185]	SA
Lakeview			
Klamath	Klamath	[834]	KL

SPECIES (SPEC) - Enter appropriate code.

STOC - Northern Spotted Owl
STVA - Barred Owl
STNE - Great Gray Owl
STXX - Spotted Owl - Barred Owl hybrid, any generation
STUN - Strix unknown species
BUVI - Great Horned Owl
for additional species, use first 2 letters of genus and species

MONTH (MO) - Enter 2 digit numeric code for month, e. g. June = 06.

DAY (DY) - Enter 2 digit code for day of month.

YEAR (YR) - Enter last 2 digits of year, e. g. 1987 = 87.

DETECTION TIME (TIME) - 24 hour clock for time first bird responds. This should be recorded for all initial bird responses in the future. If no bird responds, leave it blank. For entering old data, if no response time is indicated, enter 9999. We will need some entry in this variable for linking the visit and owl file. [OBSOLETE - standard time]

START TIME (BEGT) - 24 hour clock time for start of survey. [OBSOLETE standard time]

END TIME (ENDT) - 24 hour clock time for end of survey. [OBSOLETE standard time]

OBSERVATION TYPE (OT) - Enter appropriate code. Remember, there is a separate entry for each individual owl encountered.

BB - new bands attached (first banding)
BR - color band replaced
BC - color band attached, previous USFWS band
CB - bands read/bird in hand
VB - color band read/bird free
VN - visual - no bands read
UB - visual - unbanded
VT - telemetry
AN - auditory - no bands read
MO - mortality
NR - no response
UN - unknown
VO - previously confirmed on 1 site, now on another, within 1 year

USFWS BAND NUMBER (USFW) - Enter entire USFWS band number. The hyphen is already entered. Left justify all values, ie. if the prefix is only 3 numbers in the prefix, start with a 0 e. g., 0877-06014 and 1387-15501.

LEG (L AND L2) - Enter appropriate code.

R - right
L - left

COLOR BAND PATTERN (PAT) - Enter the pattern of the band as follows. BLM generally uses only the first 2.

SOL - solid
STR - three stripe band, as those we use for juveniles and subadults, e. g. red with a center white stripe.
HOR - bicolored band, e. g. red top, blue bottom.
VER - vertical striped band.
DIA - diagonally striped band, candy striped.

TOP OR MAIN COLOR - LEG BAND (COL) - Enter appropriate code for the main color of the band or, for bicolored bands, the top color. Codes for colors are created by using the first 3 letters of the color, unless the 3 letters are already in use. If so, we chose another combination. Contact Joe Lint if new color codes are needed.

BAK - black
BLU - blue
GRE - green
RED - red
WHI - white
YEL - yellow
ORA - orange
UNK - band seen but color not visible
NON - no color band

TOP OR MAIN COLOR - LEG BAND (cont.)

OBSOLETE CODES, used 1986-1990
GRS - green with white stripe
RES - red with white stripe
BLS - blue with white stripe
BAS - black with white stripe
WHS - white with black stripe
YES - yellow with black stripe
NON - none
UNK - unknown, color band was seen but the color unreadable.

BOTTOM OR SECONDARY COLOR (BOT) - Enter the stripe color of striped bands or the bottom color of a bicolored band. See comments on TOP COLOR.

BAK - black
BLU - blue
GRE - green
RED - red
WHI - white
YEL - yellow
ORA - orange
UNK - band seen but color not visible
NON - no color band

TAB COLOR (TAB) - Enter the color of the tab if tabs are being used.

BAK - black
BLU - blue
GRE - green
RED - red
WHI - white
YEL - yellow
ORA - orange
GRY - grey
(blank) - none seen
UNK - unknown, use only if a tab was seen but the color was unreadable.

SEX (S) - Enter appropriate code.

M - male
F - female
U - unknown

AGE CLASS (A) - Enter appropriate code. Do not use previous information to make the call. If you do not look at the tail feathers on a particular visit, use the D designation.

A - adult
S - subadult
D - adult/subadult - not young of the year, but true age unknown
F - any young of the year before dispersal
U - unknown

[NUMBER OF TAIL BARS OBSOLETE (B) - Enter the maximum # of complete white bars on one of the 2 middle tail feathers. If you collect this information read the following reference CAREFULLY. There have been major misinterpretations in the past. See Barrows, Bloom, and Collins. 1982. Sexual differences in the tail barring of spotted owls. North American Bird Bander, 7:138-139. for details.]

NUMBER OF TAIL BARS - LEFT AND RIGHT FEATHERS (BL and BR) - Enter the maximum number of complete white bars on each feather. If you collect this information read the following reference CAREFULLY. There have been major misinterpretations in the past. See Barrows, Bloom, and Collins. 1982. Sexual differences in the tail barring of spotted owls. North American Bird Bander, 7:138-139. for details.

TAIL TIP COLOR (T) - Enter appropriate code. Under good conditions, this may be determined while the bird is perched nearby, without capture.

W - white
M - mottled
U - unknown, not reported

TAIL TIP SHAPE (TS) - Enter the appropriate code.

P - pointed
R - rounded

WEIGHT (WT) - Enter weight in grams if bird is weighed. If you know the bird has eaten mice, estimate the weight of the mice and subtract it from the measured weight. Mice weigh 10 - 20 grams, depending on their size. Convert if necessary.

RADIO (TX) - Enter appropriate code.

1 - first radio attached
2-9 - subsequent radios attached
R - radio removed, no subsequent radios attached

10' LATITUDE BLOCK (LAT) - Enter latitude block when you band a bird. This will be useful for producing USFWS banding reports.

10' LONGITUDE BLOCK (LONG) - Enter longitude block. See above.
LOCATION CODE - Eight character code for Lat/Long Blocks used in USFWS Banding Schedule Generator codes to be provided later. Leave blank for now.

COMMENTS ENTERED? (COM) - Enter whether the memo field contains comments or not.

Y - yes, comments are entered
N - no, no comments entered

COMMENTS (COMMENTS) - Memo field. If you have any comments to enter, press (ctrl) PgDn and type comments. When you finish, press (ctrl) W or (ctrl) End to exit back to the entry forms. Enter only major comments not covered by codes, such as condition of the bird; if a banded bird moves between sites, where it came from or went to; injuries noted; brood patches; etc.

ENTRY DATE (ENTDATE) - This will be entered once at the start of each entry session. DO NOT add it to existing records. It's not that important, just a help.

SPOTTED OWL DBASE III FILE STRUCTURE

OWL DATA FILE

	VARIABLE CODE	DEFINITION	SIZE	DATA TYPE	COMMENTS
	LOCNAME	LOCATION NAME	20	AN	
	MSNO	MASTER SITE NUMBER	4	I	
	RES	RESOURCE AREA	3	I	
	SPEC	SPECIES	4	C	
	MO	MONTH	2	I	
	DY	DAY	2	I	
	YR	YEAR	2	I	
	TIME	DETECTION TIME (24 HOUR)	4	I	
	OT	OBSERVATION TYPE	2	C	
	USFW	USFWS BAND NUMBER	10	I	
	L	LEG	1	C	
	PAT	STRIPE PATTERN	3	C	
	COL	PRIMARY COLOR	3	C	
	BOT	SECONDARY COLOR	3	C	
	L2	COLOR BAND LEG	1	C	
	TAB	TAB COLOR	3	C	
	S	SEX	1	C	
	A	AGE	1	C	
	B	# TAIL BARS	1	AN	
	BL	# TAIL BARS - L FT FEATHER	1	AN	
	BR	# TAIL BARS - RIGHT FEATHER	1	AN	
	TS	TAIL TIP SHAPE	1	C	
	T	TAIL TIP COLOR	1	C	
	WT	WEIGHT (GRAMS)	3	I	
	TX	RADIO TRANSMITTER	1	AN	
#	**LAT**	10' LATITUDE BLOCK	4	I	
#	**LONG**	10' LONGITUDE BLOCK	3	I	
	LOCCODE	LOCATION CODE	8	C	
	COM	COMMENTS ENTERED?	1	Y	
	COMMENT	COMMENTS	10	AN	
	ENTDATE	ENTRY DATE	8	D	

BOLD - to be collected by all westside Oregon BLM biologists. Other variables may be collected at the discretion of each district or biologist

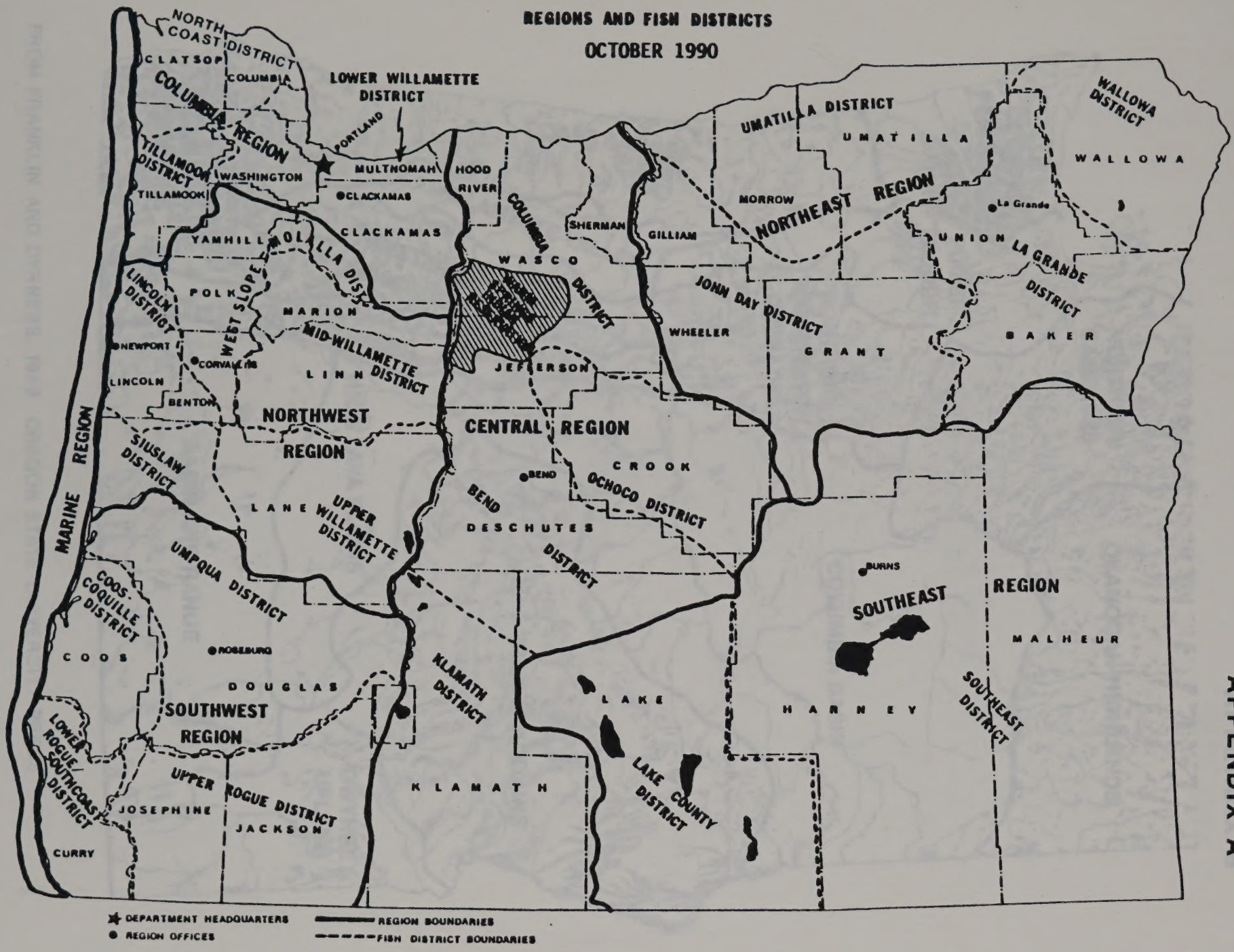
\# - to be entered whenever you band an owl, for USFWS banding schedules.

revised 4-15-91

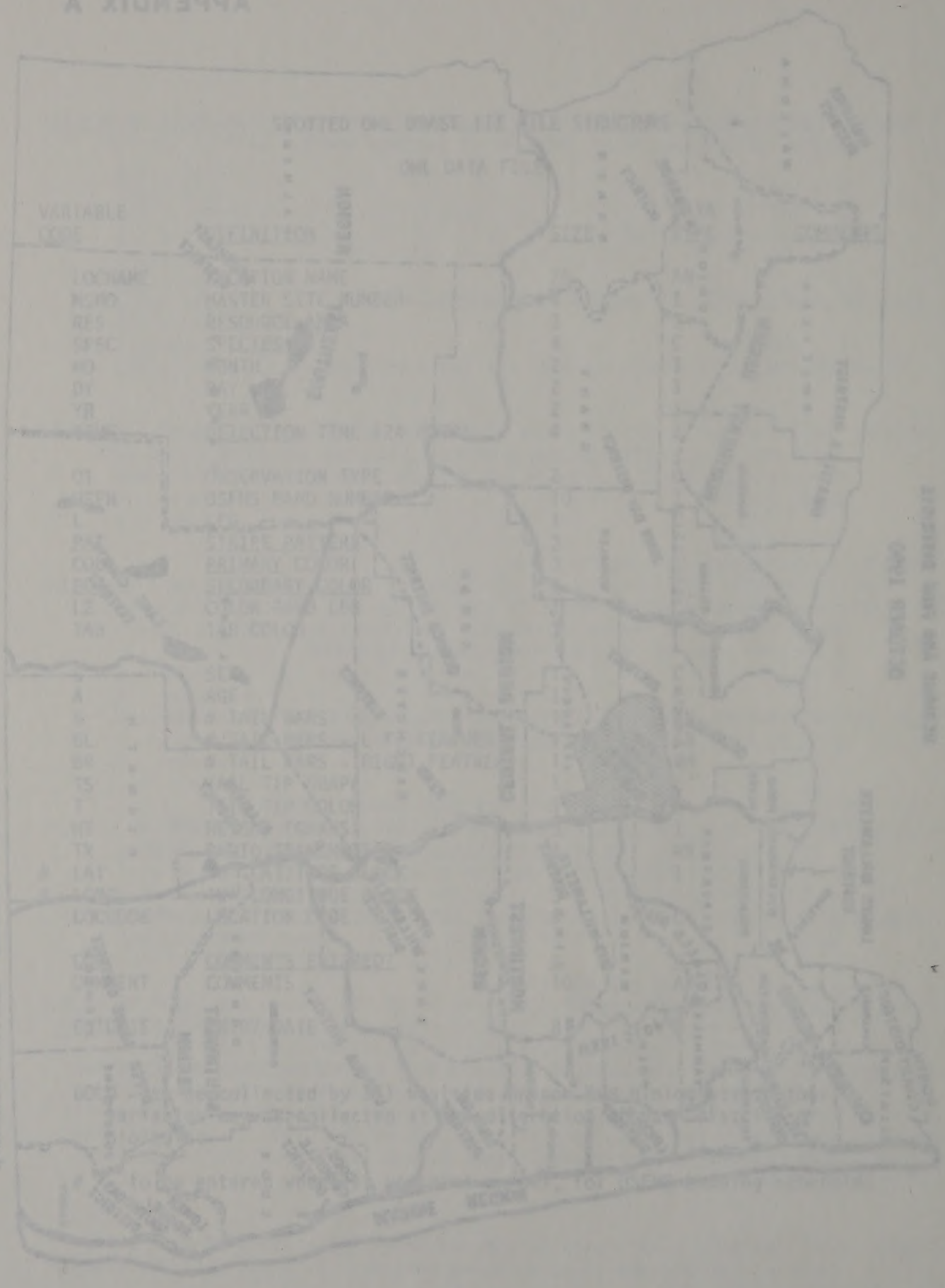
Oregon Department of Fish and Wildlife

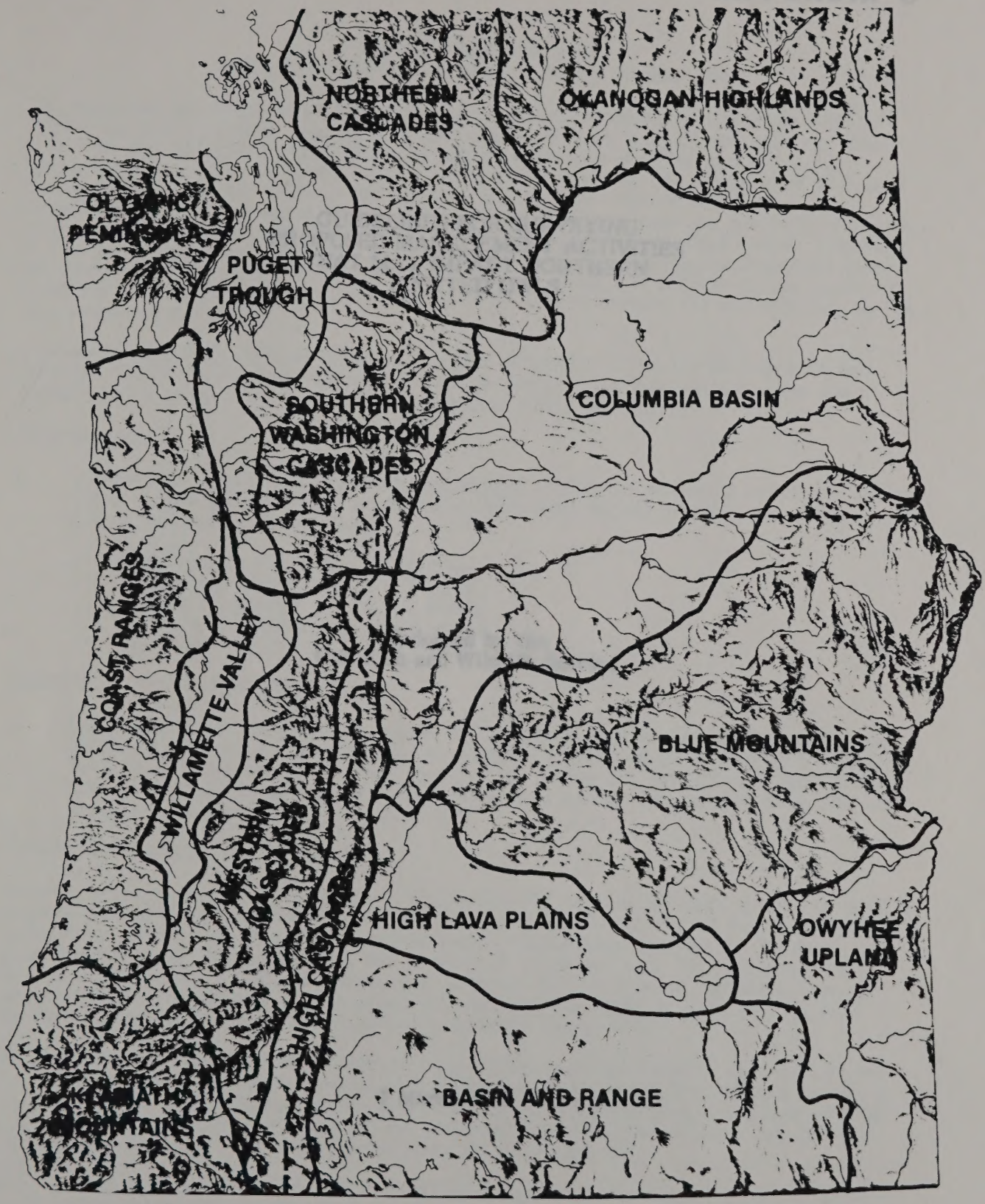
REGIONS AND FISH DISTRICTS

OCTOBER 1990

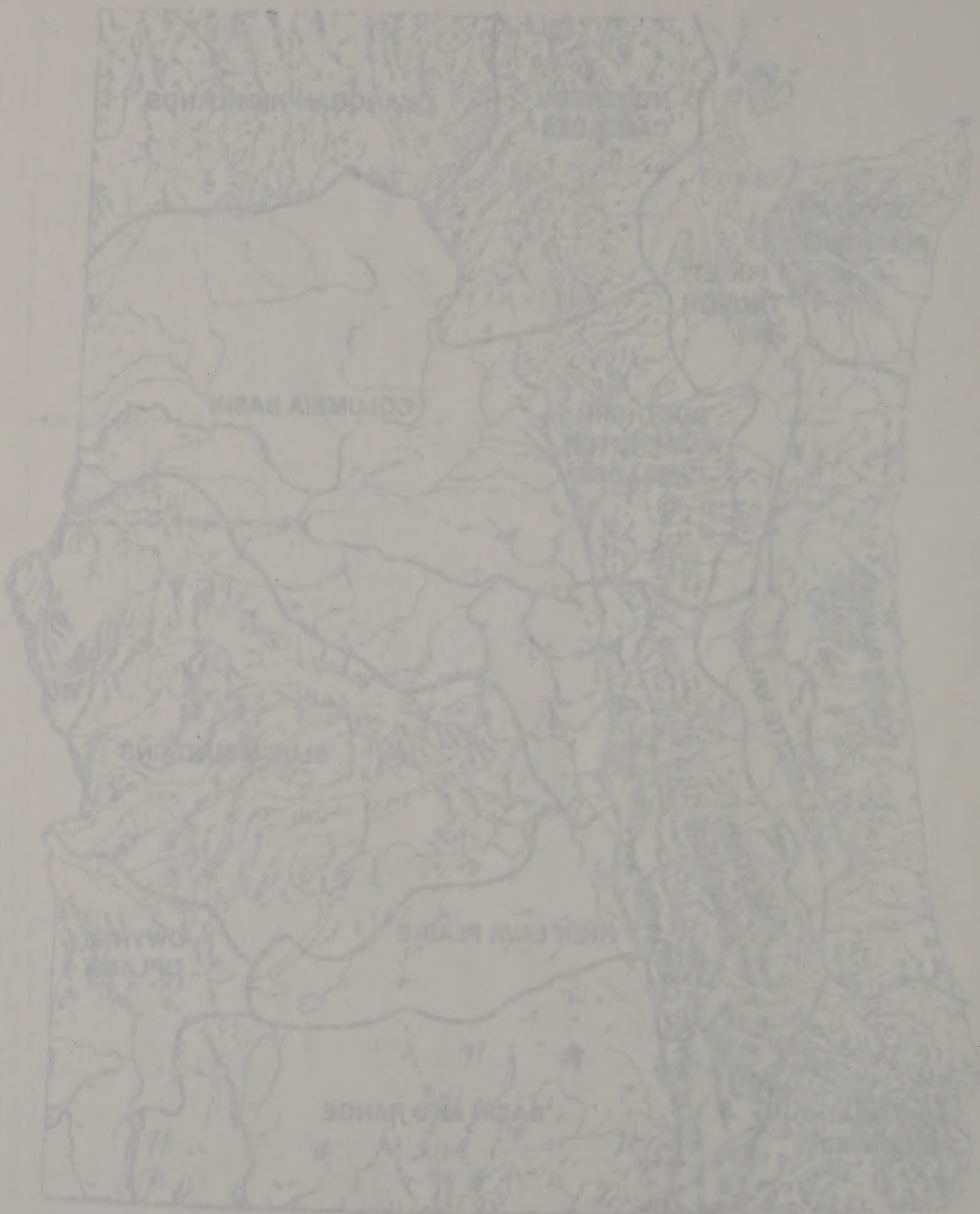


APPENDIX A





FROM FRANKLIN AND DYRNESS, 1988 OREGON STATE UNIVERSITY PRESS



APPENDIX C

GUIDELINES FOR SURVEYING PROPOSED MANAGEMENT ACTIVITIES THAT MAY IMPACT NORTHERN SPOTTED OWLS

Endorsed by the
U.S. Fish and Wildlife Service

7 March 1991

APPLICATION OF THE NORTHERN SPOTTED OWL SURVEY GUIDELINES

The enclosed guidelines were designed to be followed when surveying areas where timber harvest activities may remove or modify northern spotted owl habitat. The U.S. Fish and Wildlife Service (Service) endorses the use of these guidelines for gathering information on proposed timber sale activities so that compliance with the take prohibition of the Endangered Species Act may be assured. Note that any information on owl presence within and/or adjacent to the proposed planning or activity areas is important, even if it does not meet the guidelines described below. However, if the only information available for a particular activity was acquired through less intensive surveys, the Service must conservatively assess the effects of the action on northern spotted owls. It is always useful to document reasons for not adhering to the recommended guidelines.

The enclosed guidelines only cover the technical aspects of conducting spotted owl surveys. However, there is additional direction needed for compliance under the Endangered Species Act. This information is provided below.

SURVEY AREA

- As much as possible, all spotted owl habitat within the specified provincial radius from the perimeter of the proposed activity area should be surveyed. The provincial radii are as follows:

Washington Cascades	= 1.8 miles
Olympic Peninsula	= 2.2 miles
Oregon Cascades	= 1.2 miles
Oregon Coast Ranges	= 1.5 miles
Klamath Province	= 1.3 miles

REPRODUCTION SURVEYS

- Determining reproductive success is not required to determine "take" under the Service's guidelines. Breeding season restrictions should be applied to all harvest activity in order to protect owl reproduction during any given year. Restrictions may be dropped if, according to the guidelines, surveys reveal that owls are non-nesting or that no young were produced.

TIMING/DURATION OF SURVEYS

Previous survey data were analyzed to determine the number of visits needed to have a high likelihood that territorial owls will be detected or that a lack of owl responses accurately reflects an absence of spotted owls. Preliminary analysis of the data provided the basis for determining the number of visits per year for both the 2-year and 1-year surveys. Additional statistical analyses will be done to further refine the probabilities of detection. The analyses will not be completed in time for the 1991 surveys. Use the following instructions for surveys during 1991.

- If a complete survey was done the year before harvest (either a one or two-year survey), and owls were located within the specified provincial radius, a survey (a minimum of 3 visits) must be done the year of harvest within a one-quarter mile radius around the perimeter of the proposed activity area. If birds are located during this survey, nesting status must be determined.

- If no responses have been obtained from a historical site after 3 years of survey (using the guidelines established in this document), the site can be called unoccupied.

GUIDELINES FOR SURVEYING PROPOSED MANAGEMENT ACTIVITIES THAT MAY IMPACT NORTHERN SPOTTED OWLS

INTRODUCTION

These guidelines are based on several existing protocols and, when implemented, should serve two primary purposes: (1) provide adequate coverage and assessment of the area for the presence of spotted owls, and (2) ensure a high probability of locating spotted owls and identifying owl territories that may be affected by a proposed management action. It is not appropriate to use these guidelines to monitor yearly trends of spotted owls or for many other research applications.

These guidelines were peer-reviewed by scientists, biologists, and managers who work on various issues pertinent to the ecology and management of northern spotted owls. Reviewers included personnel from:

U.S. Forest Service
Bureau of Land Management
U.S. Fish and Wildlife Service
Humboldt State University
Oregon State University
California Department of Fish and Game
Oregon Department of Fish and Game
Washington Department of Wildlife
National Council of the Paper Industry for Air and Stream Improvement
Timber Association of California
Private Timber Companies
Private Consultants

HABITAT TO BE SURVEYED

Spotted owl habitat is any habitat where you would expect to elicit a response from a resident owl or pair of owls. Only spotted owl habitat will need to be surveyed. Descriptions of spotted owl habitat for the various areas and physiographic provinces are available. The various state wildlife and forestry agencies should be able to provide recommendations for spotted owl habitat descriptions for their area.

COORDINATION OF INFORMATION

The importance of coordination in conducting the spotted owl surveys can not be overemphasized. Appropriate coordination involves: 1) pre-season planning (including coordination of commitments by adjacent landowners on the areas to be surveyed by each party); 2) immediate communication of results, positive or negative, that would affect other landowners; and 3) exchange of post-calling season information summaries. Common mistakes, such as overlapping visits by more than one survey group can be avoided through coordinated pre-planning. It is also advisable to inform adjacent landowners of all surveys near their ownership because new survey results may affect their management and logging operations. The state agency or spotted owl database holder responsible for evaluating forest practice applications and analyzing survey data should be kept up to date with new survey results.

DEFINITIONS

Survey Area - The area delineated around the proposed activity which will be surveyed for the presence or absence of spotted owls.

Complete Survey - The survey area has been surveyed to the required number of visits and inventoried to meet the protocol guidelines.

Management Activities - Those activities which may impact northern spotted owls. The most common activity is harvest or modification of spotted owl habitat. Also included under management activities are various types of disturbance not necessarily associated with timber harvest activities.

Complete Visit - The objective of a complete visit is to conduct a thorough survey of the entire area in one field outing; however, in some cases this may not be possible. A complete visit may be a combination of a day and a night field outing and, in addition, may include a daytime follow-up visit. If reasonable effort was made to cover the area (timber sale or planning) in one outing but this was not accomplished, then the remaining unsurveyed area should be surveyed in the following field effort. As much as possible, complete the visit on consecutive days. The entire area must be covered within 7 days in order to be considered as one complete visit. If the project area is too large to be covered in 7 days, it should be divided into smaller areas based on available habitat, topography, drainages, and other important factors.

If a surveyor gets an owl response at night and conducts a daytime follow-up visit, the combination of the night outing and the daytime follow-up visit would be counted as 1 complete visit for that owl or pair of owls. If a surveyor goes out at night and does not get a response, a daytime follow-up visit would not be necessary. In this case, the night outing alone would be considered as 1 complete visit. Whether or not owls are heard, the entire area needs to be surveyed to count as a complete visit.

Daytime Follow-up Visit

The objective of the daytime follow-up visit is to locate spotted owls (pairs or singles) by conducting an intensive search within the general vicinity (approximately a 0.5-mile radius) of the original response location at night. The follow-up visit should be completed as soon as possible (preferably the next day) after presence was detected. A daytime follow-up visit is only the second part of a complete visit.

SURVEY PERIOD

- All surveys of proposed management activity areas must take place between 15 March and 31 August. For areas where there is adequate biological information that birds are defending their established territories prior to 15 March, then 1 March may be used as a starting time. Conversely, surveys should begin 1 April for the higher Cascades area where previous survey information has shown that birds return to their established territories later. Positive responses after 31 August are still valid, but negative results after this date do not count towards the number of visits required for completing the year's survey.

- Two years of survey are necessary for a complete survey of a management activity or planning area to determine absence of spotted owls. Surveys may be completed sooner if a response is obtained and status of the owl(s) is confirmed.

- A one-year survey can be done only if a two-year survey is not possible. Land managers should plan on establishing two-year surveys for all future activities as soon as possible.

ESTABLISHING THE SURVEY AREA

- Develop transects and/or calling points to cover all spotted owl habitat within the delineated survey area.

- Establish calling stations and survey routes to achieve complete coverage of the area. Calling stations should be spaced 1/4 to 1/2 mile apart, depending on topography. Take advantage of prominent points within the survey area when establishing calling stations.

  Where known spotted owl activity centers exist within the survey area, survey areas may be adjusted to exclude habitat that would be within earshot of the activity center. However, consider the need to survey the known activity center for current status.

The intent is to obtain complete coverage of the area where owls will be able to hear the surveyor and the surveyor will be able to hear the owl.

- For each visit, whether results are positive or negative, record the following information on a survey form:
  1) Brief description of survey route.
  2) Survey start and stop time (total amount of time spent calling) and total time of survey.
  3) Weather conditions (including estimated wind conditions and precipitation).
  4) Survey results: note all spotted owl detections, including sex and age if possible, time of response and type of location (e.g. audio, visual, or both). For multiple or moving owls, list information and number each response or observation. This will allow more accurate determinations of management centers.

- It is recommended that all barred and great horned owl responses be recorded as these may affect spotted owl responses.

- For each visit, regardless of survey results, map (preferably on a USGS topo, orthophoto, or some other high quality map), the following:

  1) Route surveyed and stations called; and

  2) All spotted owl response or observation locations. For multiple or moving owls, map all response or observation locations and number to correspond with survey results. Again, this will assist in determining activity centers.

  3) It is recommended that barred and great horned owl response or observation locations be mapped.

SURVEY METHODS

Two types of surveys are accepted: spot calling and leapfrog calling. Each is described below. Spot calling is the recommended method. Whatever method you use, be sure you cover all spotted owl habitat within the survey area.

1) Spot calling: Set up a series of calling points 1/4 to 1/2 mile apart along the road transects. When possible, pick prominent points which cover large areas. Spend at least 10 minutes at each point, more if the topography prevents you from hearing birds that might respond from the previous calling point (eg. you cross a major ridge). If the topography lends itself to fewer, prominent calling points, spend more time at each point.

2) Continuous walking or leapfrog surveys: Walk the designated route playing the tape and pausing at prominent points to listen for a few minutes. If two people are involved, you may use a leapfrog method (See Forsman 1983 - Methods and Materials for Locating and Studying Spotted Owls, USFS Gen. Tech. Rept. PNW-162).

The following instructions should be followed using either method:

- It is recommended that a surveyor use a cassette tape with recorded spotted owl calls, a tape player, and a sound amplification device (e.g. a hand-held megaphone or loudspeaker). The use of a cassette tape, tape player, and sound amplification device enables surveyors to assure consistent and equitable calling methods. The amplified sound must be heard at least 1/4 mile. Surveyors must be stationed outside their vehicle.

- Start the tape and let it run for 3-7 calls, listen for a minute or two, then play another set of calls. It is recommended that the owl tape contain calls from both male and female owls. In particular, it should include male 4-note contact calls, and male and female agitated calls.

- Continue this process for at least 10 minutes at each calling station.

- Voice calling may be used by experienced surveyors at the discretion of the project leader (see Surveyor Credentials/Qualifications).

- Characterize behavioral observations as best you can. Make note of agitated calls, continuous responses, movement (toward you or away from you), or situations such as when one response is received and the owl is quiet thereafter. Recording this type of information may assist with the identification of activity centers.

- Conduct night surveys between sunset and sunrise. Be sure not to call the same section of a survey route at the same time on each survey effort (i.e. vary time you start and the section of the route you start from).

- Do not survey under inclement weather conditions, such as high winds (> 10 mph), rain, or high noise levels (stream noise, machinery, etc.) which would prevent you from hearing responses.

- Where spotted owl habitat exists, systematically survey each planning or activity area until an owl responds, or if no response is heard, until a minimum of 3 complete night visits are conducted each year for a 2-year period. A one-year survey may only be done if no option is available for conducting two-year

surveys. This should consist of a minimum of 6 complete night visits for the year.

- Visits must be spaced at least 5 days apart. At least 2 of the night visits per year must be conducted before 30 June for a two-year survey and at least 4 of the night visits must be conducted before 30 June for a one-year survey. Survey effort should be spread out over 2-3 months, to avoid survey efforts concentrated in a short period of time, particularly at the first of the survey season. Concentrating visits early in the season may result in inaccurate assessments of nesting status; therefore such surveys will not be acceptable.

- Where survey seasons are restricted (due to snow, landslides, mud, bridge failures, etc.), the survey period may be adjusted to fit the conditions. Documentation should be provided to explain the modified survey period.

- Surveys may be conducted during the day where there are no roads or foot trails to traverse at night, or where there are other safety concerns.

o If birds are heard during a survey:

- Estimate the bird's original and final location. One method is to triangulate on the owl's call, taking compass bearings from 2-3 locations. Make sure compass bearings are taken in as short a time-frame as possible. Record on the survey form the method used to estimate the location.

- Record the location(s) of the owl, preferably on a map or photo attached to the survey form.

The intent of the triangulation and mapping provides a means for verification of the location. Attempt to confirm the owl(s) with a daytime follow-up visit. Daytime locations are very important in determining more precise management (activity) centers.

o When a bird responds, record the required data. If no response is heard, proceed to the next calling point. Continue until the survey area is completely covered.

o If a bird(s) responds at night, return to the area during the day as soon as possible (daytime follow-up visit) to verify status as described below, unless status has already been determined.

o If a response occurs during daylight hours and there is sufficient time to determine the status, do so.

DO NOT HOOT ANY MORE THAN IS NECESSARY. BY STIMULATING THE OWLS TO MOVE AROUND DURING THE DAY, YOU MAY INCREASE THEIR RISK OF PREDATION. EXCESSIVE CALLING IN AND AROUND A NEST MAY CAUSE HARASSMENT BY BRINGING THE FEMALE OFF THE NEST.

o Once a bird responds at night, complete the survey route for the remaining points that are <u>beyond the earshot of the responding bird</u>. Beyond earshot is generally over a ridge or at least 1/2 to 3/4 mile straight-line distance from the owl. Completing the route will provide an opportunity to detect any other owls.

o If a single bird responds and after 3 complete visits (2-year survey) or 6 complete visits (1-year survey) resident status has not been determined, then up to 3 <u>additional visits</u> may be necessary in that year. <u>Additional visits</u> are visits

conducted beyond the number of complete visits required by the 2 or 1-year survey guidelines and are conducted only in the general area of the response. If resident status is determined at any point during the additional visits, no more visits are required that year.

- 2-year survey

  In a 2-year survey, the additional visits are to be conducted the same year as the response.

  If the last response occurs on:
  visit #1, conduct 1 additional visit
  visit #2, conduct 2 additional visits
  visit #3, conduct 3 additional visits
  OR
  until resident status is determined.

- 1-year survey

  If the last response occurs on:
  visit #4, conduct 1 additional visit
  visit #5, conduct 2 additional visits
  visit #6, conduct 3 additional visits
  OR
  until resident status is determined

If 3 responses are not obtained, even after the additional visits, then the bird is not classified as a resident single.

STATUS

o Verify the status according to the following definitions (status visits can be day or night). These definitions may be somewhat different from the status definitions outlined in the density/demography survey guidelines due to the different objectives of the guidelines for surveying proposed management activities.

PAIR STATUS is established by any of the following:

1) a male and female are heard and/or observed (either initially or through their movement) in proximity (< 1/4 mile apart) to each other on the same visit; or

2) a male takes a mouse to a female (see "mousing" clarification under GUIDELINES FOR DETERMINING REPRODUCTIVE STATUS); or

3) a female is detected (seen) on a nest; or

4) one or both adults are observed with young (young alone do not define a pair because young barred owls look like young spotted owls).
Later in the summer (August), young spotted owls can be distinguished from barred owls by their plumage.

RESIDENT SINGLE STATUS is established by:

1) the presence or response of a single owl within the same general area on 3 or more occasions within a breeding season, with no response by an owl of the opposite sex after a complete survey; or

2) Multiple responses over several years (ie. 2 responses in year one and 1 response in year two, from the same general area).

Determining if the responses occur within the same general area should be based on topography and the location of any other owls known for the surrounding area. This should be determined by the wildlife biologist for the particular area. Radio-telemetry and banding data can also be used to aid in determining status of singles.

TWO BIRDS, PAIR STATUS UNKNOWN is established by:

- The presence or response of 2 birds of the opposite sex where pair status cannot be determined and where at least 1 member must meet the resident single requirements.

STATUS UNKNOWN is established by:

- The response of a male and/or female which does not meet any of the above category definitions.

GUIDELINES FOR DETERMINING REPRODUCTIVE STATUS

REPRODUCTION SURVEYS - The following are recommended guidelines for determining reproductive status of spotted owls. They are designed for management purposes and may not meet all research goals. Such surveys may provide information on nest tree locations which provide the most accurate management (activity) center locations.

- There are 2 stages of reproductive surveys: nesting status and reproductive success.

NESTING STATUS

- Conduct nesting status surveys between 1 April and 1 June. The start date is based on nest initiation dates. If local data suggests a different date for nest initiation, adjust the start date accordingly. Young identified after 1 June would still confirm nesting.

- Spread the surveys throughout the survey period. Do not conduct all nesting status surveys in early April.

- Use a standard "mousing" procedure as described below to determine nesting status. However, DO NOT "MOUSE" BIRDS ANY MORE THAN IS NECESSARY. BY STIMULATING THEM TO MOVE AROUND DURING THE DAY, YOU MAY INCREASE THEIR RISK OF PREDATION. THE SAME GOES FOR HOOTING. EXCESSIVE CALLING IN AND AROUND A NEST MAY CAUSE HARASSMENT BY BRINGING THE FEMALE OFF THE NEST.

MOUSING

- Locate 1 or both members of a pair during the day and offer them mice or other small prey items.

- Once the owl(s) take prey, or are found with natural prey, record the 'fate' of each prey item (e.g. eaten, cached, given to female or young). The fate of the prey is used to classify nesting status.

- If the owl eats the prey item, continue to offer additional prey items until the owl caches the prey, sits on it for an extended period of time (30-60 minutes), refuses to take additional prey, or carries the prey away. If the bird flies with the prey, follow and try to determine the final disposition of the prey. For more details on mousing procedures, see Forsman (1983) Methods and Materials for Locating and Studying Spotted Owls. USDA Forest Service, Gen. Tech Rept. PNW-162.

- Field personnel should make a concerted effort to get the owl(s) to take mice; be creative in placing a mouse where the owl can easily see and capture it and offer mice to the mate of an owl that has refused mice on that visit.

The site will be classified as nesting, non-nesting, or unknown nesting status based on your observations.

NESTING

The owls will be classified as nesting if any of the following conditions are observed.

Two observations, at least 1 week apart, are required to determine nesting status if the first observation occurs before 1 May. This is necessary because the owls may show signs of initiating nesting early in the season without actually laying eggs and their behavior could easily be mistaken for nesting behavior. After 1 May, a single observation is sufficient.

Nesting is confirmed if, on 2 visits before 1 May, or 1 visit after 1 May:

1) the female is detected (seen) on the nest; or

2) either member of a pair carries natural or observer-provided prey to the nest; or

3) a female possesses a brood patch when examined in hand during mid-April to mid-June. Only one observation is required. Dates may vary with the particular areas. Be careful not to confuse the normal small area of bare skin (apteria) on the abdomen with the much larger brood patch. A fully developed brood patch covers most of the lower abdomen, extending to the base of the wings. Describe the brood patch on the field form, including length, width, color, and texture of the skin, and any evidence of regenerating feathers around the edge (NOTE - while a scientific research permit is not required for calling spotted owls, any capture or handling of spotted owls does require such a permit); or

4) young are detected in the presence of 1 or both adults. Because young barred owls look like young spotted owls, young alone are not sufficient. Later in the summer (August), young spotted owls can be distinguished from barred owls by their plumage.

NON-NESTING

The site is classified as non-nesting if any of the following are observed. Again, except for brood patch information, 2 observations are required during the nest survey period, with at least 3 weeks separating these observations to ensure that late nesting attempts are not missed. The second observation should occur after 15 April. Because nesting attempts may fail before surveys are conducted, the non-nesting status includes owls that did not attempt to nest as well as those that have failed.

Non-nesting is inferred if:

1) the female is observed roosting for 60 minutes, particularly early in the season (1 April to 1 May). (Be aware that nesting females with large nestlings often roost outside the nest during warm weather. If in doubt, be sure to schedule 1 or more visits in mid-June to check for fledglings);

2) the female does not possess a brood patch when examined in hand between mid-April and mid-June; or

3) you offer prey to 1 or both members of the pair and they cache the prey, sit with prey for an extended period of time (30-60 minutes), or refuse to take additional prey beyond the minimum of 2 prey items. To be considered a valid nesting survey, an owl must take at least 2 prey items.

Surveys where the bird(s) leaves the area with prey and you are unable to determine the fate of the prey cannot be classified as to nesting status and do not count toward the required 2 visits. Banded or radio-marked birds may not take prey at all, therefore, nesting status should be inferred from other means (e.g. checking for fledglings later in the season).

UNKNOWN NESTING STATUS

If nesting is not determined before 1 June, you **CAN NOT** classify the owls as non-nesting using the criteria listed above.

- o If owls are found after 1 June, without young, nesting status is unknown.
- o If no owls are found after 1 June (at those sites where owls were present prior to 1 June), nesting status is unknown.

REPRODUCTIVE SUCCESS (NUMBER OF YOUNG FLEDGED)

Once a pair is classified as nesting, conduct reproductive success surveys after the time the young leave the nest (fledge), usually in late May to late June. If local fledging times are available you may adjust the dates accordingly.

Schedule at least 2 visits to the site to locate and count fledged young, timing the visits so that the fledged young are observed as soon after leaving the nest as possible to reduce losses to predation.

- o Attempt to locate fledged young. Use visual searches and/or mousing. If young are present, the adults should take at least some of the prey to the young. The sight of an adult with prey will usually stimulate the young to beg, revealing their number and location.
- o If the birds take at least 2 prey items and eventually cache, sit with, or refuse further prey without ever taking prey to fledged young; on at least 2 occasions, separated by at least 1 week, 0 young are recorded.

If you wish to determine the true number of fledged young, do the following:

- o On the first reproductive success visit, count the number of fledged young seen or heard.
- o Conduct a minimum of 1 follow-up visit, 3 to 10 days after the first fledged young is seen. This is necessary because it is possible to miss some owlets on a single visit.
- o If you do not elicit a response on a minimum of 2 visits, separated by at least 1 week during the fledging period, then classify the production of young as unknown.
- o If you count young on 1 visit but do not get back for a second visit, or find no owls on the second visit, classify the number of young as 1+ or 2+ etc.